1: Radcliffe-Brown E-5 (1906-1908)1922
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PLATE V

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411

A man of the *Akar-Bale* tribe with South Andaman bow and arrows, wearing belt and necklace of netting and *Dentalium* shell. (Height 1494 mm., 4 feet 9 inches)

Facing p. 30

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It does not seem that there was ever such a thing as a stand-up fight between two parties. The whole art of fighting was to come upon your enemies by surprise, kill one or two of them and then retreat. A local group that had some grievance against another would decide to make an attack. They might seek and obtain the aid of friends from other local groups. The men who were to take part in the expedition would paint themselves and put on various ornaments and join in a dance[1]. They would then set out, either by land or by sea, in the direction of the encampment they meant to attack. Their weapons consisted of bows and arrows, and they carried no shields or other defensive weapons. They would not venture to attack the enemy's camp unless they were certain of taking it by surprise. For this reason such attacks were generally made either in the evening when the camp would be busy with the preparation of the evening meal, or at early dawn, when every one would be asleep. The attacking party would rush the camp and shoot as many men as they could. If they met with any serious resistance or lost one of their own number they would immediately retire. Those attacked, if they were really taken by surprise, were generally compelled to save themselves by flight. Though the aim of the attacking party was to kill the men, it often happened that women or children were killed. The whole fight would last only a few minutes, ending either with the retirement of the attackers before resistance, or the flight of those attacked into the jungle. A wounded enemy would be killed if found.

Such attacks and counter-attacks might be continued for some years, thus establishing a feud between two neighbouring local groups. More usually, however, after one or two such fights peace would be made. In the tribes of the North Andaman there was a special peace-making ceremony, that will be described in the next chapter. All peace negotiations were conducted through the women. One or two of the women of the one group would be sent to interview the women of the other group to see if they were willing to forget the past and make friends. It seems that it was largely the rancour of the

[1] The dance is described in the next chapter.

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to act as the object of such a sentiment, and he therefore feels his dependence upon the society not directly but in a number of indirect ways. The particular way with which we are now concerned is that the individual experiences this feeling of dependence towards every important possession of the society, towards every object which for the society has constant and important uses.

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The most prominent example of such an object is fire. It may be said to be the one object on which the society most of all depends for its well-being. It provides warmth on cold nights; it is the means whereby they prepare their food, for they eat nothing raw save a few fruits; it is a possession that has to be constantly guarded, for they have no means of producing it, and must therefore take care to keep it always alight; it is the first thing they think of carrying with them when they go on a journey by land or sea; it is the centre around which the social life moves, the family hearth being the centr. of the family life, while the communal cooking place is the centre round which the men often gather after the day's hunting is over. To the mind of the Andaman Islander, therefore, the social life of which his own life is a fragment, the social well-being which is the source of his own happiness, depend upon the possession of fire, without which the society could not exist. In this way it comes about that his dependence on the society appears in his consciousness as a sense of dependence upon fire and a belief that it possesses power to protect him from dangers of all kinds.

The belief in the protective power of fire is very strong. A man would never move even a few yards out of camp at night without a fire-stick. More than any other object fire is believed to keep away the spirits that cause disease and death. This belief, it is here maintained, is one of the ways in which the individual is made to feel his dependence upon the society.

Now this hypothesis is capable of being very strictly tested by the facts, for if it is true we must expect to find that the same protective power is attributed to every object on which the social life depends. An examination of the Andamanese beliefs shows that this is so, and thereby confirms the hypothesis.

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In their daily life the Andamanese depend on the instrinsic qualities of the materials they use for their bows and arrows and

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harpoons and other hunting implements, and it can be shown that they do attribute to these implements and to the materials from which they are made powers of protection against evil. Moreover it is even possible to apply a quantitative test and show that the more important the place a thing occupies in the social life the greater is the degree of protective power attributed to it. Finally I shall be able to show that as different materials are used for special purposes so they are supposed to have certain special powers of protection against certain sorts of danger. Thus the hypothesis I have stated is capable of being as nearly demonstrated as is possible in such psychological enquiries as the one we are engaged in.

A man carrying his bow and arrows is supposed to be less likely to fall a victim to the spirits than one who has no weapons with him. One way of stopping a violent storm is to go into the sea (storms being supposed to be due to the spirits of the sea) and swish the water about with arrows. The natives sometimes wear a necklace formed of short lengths of the bamboo shaft of a fish-arrow. All the examples of such necklaces that I met with had been made from an old arrow. I asked a native to make one for me, and although he could readily have made one from bamboo that had never served as an arrow he did not do so, but used the shaft of one of his arrows. Such a necklace may therefore be described as an arrow in such a form that it can be worn round the neck and thus carried continually without trouble. The protective power of the bow is at first sight not quite so evident, but the material used for the string is regarded as possessing protective power, and to this I shall return shortly.

The best demonstration of the truth of the explanation offered is to be found by considering the different vegetable fibres of which use is made. The most important of these are the *Anadendron paniculatum* (used for bow-strings and for fine string), the *Hibiscus tiliaceus* (used for rope) and the *Gnetum edule* (used for string, and inferior to the *Anadendron*). All these fibres are believed to possess power to keep away dangers, but there is a sort of specialisation in their use.

The fibre of the *Hibiscus* is used mainly in the hunting of turtle and big fish. Consequently the tree itself from which the

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A comparison of the three branches of the Negrito race in the light of present information shows that the usual form of habitation amongst them is a sloping roof or screen of palm-leaves. One form of this, the simplest to construct, but only suitable as a temporary shelter, is in common use amongst the Semang and is found amongst the Negritos of Casiguran. The other form, more permanent but requiring more labour to erect, is in common use in the Andamans and amongst the Negritos of Zambales. Of communal huts we have no evidence in the Philippines. The communal shelter of the Semang consists of two screens leaning towards one another. The two types of communal hut of the Andamans are both derived from the family hut.

HUNTING, FISHING, ETC.

The Andaman Islanders depend for their subsistence entirely upon the natural productions of the forest and the sea. They make no attempt whatever to cultivate the soil. Until the introduction of dogs in 1858 they had no domestic animals. Young pigs are occasionally kept in captivity till they are grown, but they are killed for food and are not bred in captivity. Thus the Andamanese provide themselves with food by three different forms of activity: (1) collecting such things as roots and fruits and honey, (2) fishing in the sea and in the creeks, (3) hunting the wild animals of the forest.

For hunting the Andamanese rely entirely on the bow and arrow. Since they have had dogs they occasionally make hunting spears, but they did not do so in former times. They make no use whatever of any method of trapping game or birds. For fishing they also make use of the bow and arrow, wading out on to the reefs and shooting the fish, and in this they are very skilful. Crustaceans, such as crabs and cray-fish, are captured in the same way. In the North Andaman a sort of short fish spear was formerly in use as an occasional substitute for the bow and arrow. In all parts of the islands small nets are used by the women for catching small fish and prawns. In the Great Andaman large nets were formerly used for capturing turtle, dugong and large fish near the shore. At the present time the natives of the Great Andaman Division make use of harpoons with which they capture turtle, dugong and large fish from their canoes. Harpoons are not used in the Little Andaman. The Andamanese are also aware of methods of poisoning or stupefying fish in pools by means of certain plants that they crush and place in the water, but I have never seen them use this method of

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227 fishing, although they say that they formerly did so. They have no
226 fish hooks and no fish traps. At the present time a few of the natives have learnt to take fish with hook and line, but they are unable to make hooks for themselves, and have to obtain them from the Settlement at Port Blair.

222 In collecting roots a digging stick is used, and a hooked pole is
412 used for gathering fruit, but they have no other special implements in use in collecting natural productions, and have no need of any. The adze is used for obtaining molluscs and for cutting honey-combs from hollow trees.

411 It is thus clear that by far the most important utensil of the Andamanese is the bow and arrow. We may say that they are essentially a bow and arrow people. This is even more true of the natives of the Little Andaman Division than of those of the Great Andaman Division.

It may be noted here that the Andamanese have no weapons that are used only for fighting. They fight with their chief hunting weapon, the bow and arrow. Nor have they any special defensive weapons, the shield being unknown.

171 The Semang in their natural condition depend for their subsistence on collecting roots and fruits from the forest, on catching fish in the streams, and on hunting animals. Their mode of subsistence is thus essentially the same as that of the Andamanese. One difference is that they have not the sea from which to draw supplies, and another is that the forests in which they live afford a much larger variety of game. A number of the Semang now practice a little rude agriculture which they have undoubtedly adopted in imitation of their neighbours of other races[1].

The principal weapon of the Semang, as of the Andamanese, is the bow and arrow. In hunting they also use spears[2], thus showing a difference from the Andamanese. Some of the Semang make use of the blow-pipe with poisoned darts, but it is practically certain that they have adopted the use of this weapon from their neighbours the Sakai[3]. They also make use to some extent of traps with which to capture jungle animals and birds. The wilder Semang living in the mountains have little opportunity of obtaining fish. Those of them that dwell near rivers use fish-spears and harpoons for catching large fish, and a small basket-work scoop for catching small fry[4]. They also fish with

[1] Skeat, p. 341.
[2] Skeat, p. 270.
[3] Skeat, p. 280.
[4] Skeat, p. 205.

1: Radcliffe-Brown E-5 (1906-1908)1922
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rod and line, the hooks being, as a rule, roughly manufactured from bits of brass or other wire[1]. The Semang have no special fighting weapons either offensive or defensive. 171

In the Philippines some of the Negritos practice a little rude agriculture[2]. It is practically certain that they have only adopted this mode of subsistence through contact with agricultural peoples of other races. They originally depended entirely upon collecting, fishing and hunting, and even those who now grow a few scanty crops devote a large part of their energies to hunting and collecting the natural products of the jungles[3]. The chief weapon of the Negritos of the Philippines, as of the Andamanese and the Semang, is the bow and arrow. They use the bow and arrow for shooting fish, having special fish-arrows[4]. It seems doubtful if they use spears, unless they have adopted them from their neighbours. In hunting deer the Negritos of Zambales use large nets like fish nets. They are acquainted with the use of traps for game but they seem to prefer to depend on the bow and arrow[5]. In the larger streams of Zambales they make fishing weirs of bamboo, after the manner of the Christianised natives of the same part[6].

As the most important weapon of the Andamanese, and indeed of the Negritos in general, is the bow, we may consider this first. Different kinds of bow are in use in different parts of the Andamans, but by a careful comparison of them it is possible to show how they are all derived from one original pattern. 411

The first kind of bow to be described is that in use in the Little Andaman. These bows are all made of a reddish-brown wood (possibly *Mimusops littoralis*). They are cut with an adze from a straight piece of wood, and are planed but not polished. The length varies within fairly wide limits. Six specimens selected as typical have lengths of 131, 150, 159·5, 163, 168 and 188 centimetres, giving an average of about 160 centimetres (= 63 inches). In section the bow is markedly convex on the one side and slightly convex on the other. The two figures (Fig. 1) show the section at the middle and at a point 7 cm. from the end of a typical specimen. The shape in section varies a little from one example to another, and the dimensions of breadth and thickness also vary. At the broadest point, which is in the middle, the average breadth of six bows is 3·2 cm., the broadest being 3·7 cm., and the narrowest 2·3 cm. The average thickness in the middle is 1·8 cm.,

[1] Skeat, p. 205. [2] Reed, p. 44. [3] Reed, p. 44.
[4] Reed, p. 47. [5] Reed, p. 47. [6] Reed, p. 48.

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411 the actual figures ranging from 2·1 to 1·3 cm. From the middle the bow tapers slightly towards each end. At a distance of 7 cm. from the end of the bow the average breadth is 1·8 cm., and the average thickness 1·2 cm.

The flatter side is the inside of the bow. Referring to the figures, the side marked *A* is that which faces a man as he holds the bow ready to shoot (called here the inside). *C* is thus the right-hand side and *D* the left-hand. By breadth is meant the distance from *C* to *D*, and by thickness the distance from *A* to *B*.

At each end of the bow there is a shoulder, as shown in Fig. 2. The length from the shoulder to the end of the bow, i.e. the length of

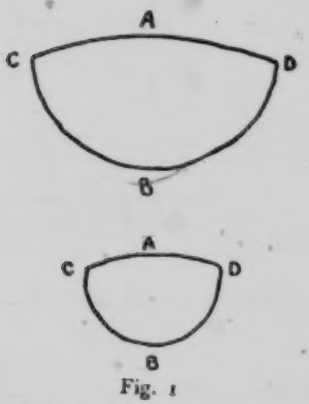

Fig. 1

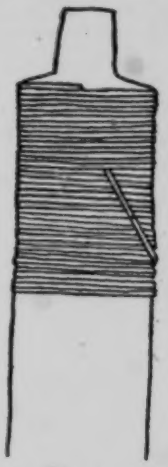

Fig. 2

Fig. 1. Section of Little Andaman bow, in the middle and near the end
Fig. 2. Shoulder of Little Andaman bow

the point on which the string is looped, is about 10 to 12 mm. Both ends are the same. For a few centimetres below the shoulder the bow is served over with string or fibre. In a carefully finished bow the serving is usually done with ornamental string, i.e. with string round which is twisted the dried yellow skin of the *Dendrobium*. In other examples plain string is used, or a strip of twisted *Ficus* fibre, or even nowadays a twisted strip of cotton cloth.

Bows are never ornamented in the Little Andaman either with paint or with incised patterns.

411 283 The bow-string of the Little Andaman is made of strips of the bark of the *Ficus laccifera*. The number and width of the strips used

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depend on the size of the bow. In a small bow now in the Cambridge Museum the string is made of a single strip of bark about 1 cm. in width. This strip is simply twisted, the twist being that of a right-hand or male screw. When two strips are used they are not twisted around one another in the way that a two-ply rope is made, but are laid flat together and twisted together, so that when the string is finished only one of the strips is visible, the other being inside. In a stout string for a large bow three or four strips may be twisted together in this way. The bow-string is not a rope, but a twisted strand (Fig. 3.)

Fig. 3

Fig. 4

Fig. 3. Bow-string of twisted fibre, Little Andaman
Fig. 4. Diagram showing the method of making the loop in the end of the Little Andaman bow-string

At one end of the string a loop is made, as shown in Fig. 4. The end is doubled over to make a loop of the right size, a round turn is made over the standing part (*A*) and the end (*B*) is twisted in with the standing part by untwisting the latter, laying the end in, and twisting up again. If this splicing, as it may perhaps be loosely called, be not sufficiently secure, it is served over or stopped with finer fibre of the same kind. This loop is of sufficient size to slip down over the shoulders. At the other end the string is attached to the peg either with a knot, or else by means of a small loop (just large enough to go over the peg, but not large enough to slip over the shoulder) made in

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411 exactly the same way as the loop already described. When the bow is to be strung the larger loop is slipped over the peg at the top end of the bow and is pushed down over the shoulder. The other end (with the smaller loop) is then slipped on the peg at the lower end, resting on the shoulder. The lower end is placed on the ground, while the top end is held in the hand. The man places his foot against the middle of the bow and draws the top towards him until he is able to slip the top loop of the string up over the shoulder so that it catches the peg or tip. The bow is then ready for use.

Toy bows are made for small boys of exactly the same general pattern as the large bows. A toy bow of this kind, now in the Cambridge Museum, is 107 cm. long and 18 mm. broad in the middle.

The next type of bow to be considered is that used by the natives of the North Sentinel Island. I have only been able to see one specimen

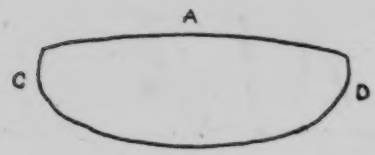

Fig. 5

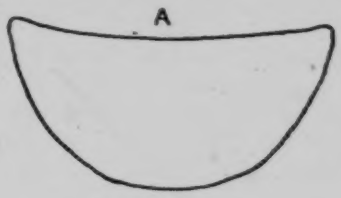

Fig. 6

Fig. 5. Section of bow from North Sentinel Island
Fig. 6. Section of Jarawa bow

of this type, which is in the British Museum. It is made of a different kind of wood from that used in the Little Andaman. The length is 155·5 cm., and the breadth at the middle is 4·3 cm. The section in the middle, which is shown in Fig. 5, is slightly different from that of the average Little Andaman bow, but it has the same feature of greater convexity on the outside and less convexity on the inside, and it lies just within the range of variation of the Little Andaman type. The ends of the bow are shaped in the same way as those of the Little Andaman bow. The breadth at the shoulder, however, is 2·5 cm., which is greater than the corresponding measurement of the Little Andaman bow. The bow is not ornamented either with a painted or incised pattern. The string is missing. There is no binding at the ends below the shoulders, but this has possibly been present and come off, as the specimen is one that has been thrown away by its owner owing to the wood having split. So far as we can tell from this single specimen

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the bow of the North Sentinel differs very little from that of the Little Andaman. 411

We now come to the bows of the Jarawa of the South Andaman. The Jarawa of Rutland Island, of whom there are now very few, but of whom there were a larger number twenty or thirty years ago, make bows exactly like those of the Little Andaman, and apparently do not make any other kind. The Jarawa to the north of Port Blair, who have been driven northwards by the spread of the Penal Settlement, also make bows of this type, which it is not possible to distinguish from Little Andaman bows. These northern Jarawa, however, also make bows of a different kind. These will be spoken of as belonging to the "modified Jarawa type." They are larger than Little Andaman bows, having an average length of about 185 cm., with a breadth of about 5 cm. The section, throughout the greater part of the length, is either plano-convex, or, more frequently, concavo-convex. The section of a typical example is shown in Fig. 6. At the middle of the bow, where it is held in the

Fig. 7. Upper end of South Andaman bow

hand, there is a slight thickening produced by a protuberance on the inside, i.e. on the flat or concave side. In a certain number of specimens the bow, instead of being straight, is slightly recurved outwards. Finally, the wood from which these bows are cut is not the same as that used in the Little Andaman.

The Little Andaman bow, the North Sentinel bow and the Jarawa bow are all varieties of one type. The Little Andaman form is probably nearest to the original of the type, and I shall show later how the modifications found in the modified Jarawa type came to be adopted.

We now come to bows of a different type, of which there are two varieties, one used in the South and Middle Andaman, and the other used in the North Andaman.

The bow of the South Andaman tribes is not cut from a straight piece of wood, but is cut from a tree that has bent in the course of its growth into a suitable curve. A tree has to be found that will provide a piece of wood of the required shape. From this the bow is shaped with an adze, and is finished by planing with a boar's tusk.

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411 Bows of this kind vary in length between 180 and 210 cm., the most usual length being between 190 and 195 cm. At the upper end the bow is brought to a point approximately circular in section. From this point it broadens out until, at a distance of about 50 or 55 cm., or between one-quarter and one-third of the length of the bow, it reaches its maximum breadth, which is, on the average, about 5·5 cm. The section of the bow at this point is convex on the outer side, while on the inner side it may be flat or slightly concave, or even in rare instances slightly convex. In many specimens there is a very slightly raised keel running down the middle of the inside of the bow. The thickness of the bow at the point mentioned is usually 1·5 to 1·75 cm., and there is little variation in this respect in different specimens. (See Fig. 8.)

At the middle the bow decreases in breadth and increases in thickness to form a handle. At the handle the usual section may be described as pear-shaped, the greatest diameter being the thickness (from inside to outside) and not the breadth.

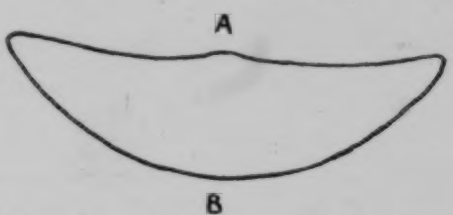

Fig. 8. Section across the blade of a South Andaman bow

From the handle towards the lower end the bow again increases in breadth, so that the lower portion is about the same breadth and thickness as the upper portion. At the lower end it tapers to a point, circular in section, but the point is blunter than at the upper end.

Thus the whole bow consists of a leaf-shaped upper portion or blade which is straight (i.e. neither curved inwards nor outwards), a waist or handle, and a lower blade that is curved backwards or outwards at about its middle, this being the position of the bend in the wood from which it is cut. A bow of this type is shown in Plate v.

Near each end the bow is served over with string for a distance of 3 or 4 cm., leaving a bare point at the upper end of about 7 cm. long, and a point at the lower end of about 1·5 cm. (Fig. 7.)

411 283 A bow-string is made from the fibre of the *Anadendron*. A number of strands of the fibre are taken and are waxed with black bees'-wax. Four of these strands are taken, three of them are placed together and

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the fourth is wound spirally round them. When the end of the active strand (the one being twisted round the others) is neared, a new strand is taken and laid in. The twisting is continued for a few turns and the newly inserted one is then taken, the end of the first active strand being laid in and wound over in its turn. The process continues in this way, new strands being added until a cord of sufficient length has been made. This is again waxed over on the outside.

At one end of the cord a knot is tied. At the other end a loop or eye is formed. To make this eye, when the cord is of sufficient length, the end of it is bent over to form a loop of about 1 cm. or a little more in diameter. This loop is then served over with thread made of *Anadendron* fibre. The serving is continued over the neck of the loop for about 1·5 cm. This gives an eye with the appearance shown in Fig. 9. A loose strand of fibre is left at the neck of the loop. This is wound spirally over the cord, as described before, new strands being added one after another until the cord has been treated in this way for about 35 cm. from the eye. It is then stopped by serving it over for

Fig. 9. Loop of bow-string, South Andaman

about 2 cm. with *Anadendron* thread. It is clear from this description that the cord is somewhat thicker for about 35 cm. from the end with the eye than it is in the rest of its length.

To string the bow the knotted end of the bow-string is fastened round the top end of the bow with a slip knot, so that it rests on the top of the string serving. The bow is then turned upside down and the top end (now temporarily at the bottom) is fixed in the ground or against a stone, so that it will not slip. The other end of the bow is taken by the left hand, while the cord is held in the right, the right foot is placed against the handle or middle of the bow and the bow is bent, the end held by the hand being drawn towards the operator until he is able to slip over it the eye or loop at the end of the string.

After the bow has been strung the upper portion, which before was straight, is now curved inwards, and the bow therefore appears as S-shaped when seen from the side. When a man starts out hunting or fishing he strings his bow and tests it, and it remains strung till he returns, when he unstrings it and places it in his hut.

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411 The advantage of having a knot at one end of the string seems to be that should the string be stretched by use it can be tightened by altering the position of the knot.

At the point where the nock of the arrow is placed when the bow is drawn, it is usual to serve the string over with thread of *Anadendron* fibre.

The peculiar features of the South Andaman bow depend on the fact that the bow takes advantage of the greater toughness and elasticity of wood that has been compressed in the course of its growth. When the bow is drawn the strain does not fall evenly, but, by reason of the shape of the bow, is concentrated on one portion, namely the lower portion of the bow where it is curved outwards. This is easily seen when a bow is strongly drawn, for from the S-shape that it has before, it becomes very nearly true arc-shaped when fully drawn. The lower portion of the bow works as though hinged, and thus the strain is largely borne by the curved portion of the bow. Now this portion is cut from the concave side of a tree that has been bent while growing, and consequently the fibres of the wood are here stronger, tougher and

[531]

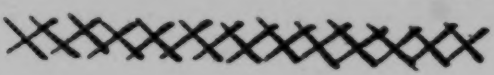

Fig. 10. Ornament on South Andaman bow

more elastic. The result is that for a given amount of energy spent in drawing the bow a greater force of propulsion is given to the arrow than with a bow of the Little Andaman type.

The breadth of the bow is necessitated by its shape, for if it were narrow the string would slip round on to the outside of the bow. The narrowing at the handle is necessary for holding the bow. The adoption of tapered ends instead of shoulders is a definite improvement as it makes the bow less liable to split at the ends.

411 The bows of the South Andaman group of tribes are always
531 decorated with incised patterns. The conventional pattern is shown in Fig. 10. One line of such pattern runs down each edge of both the inside and the outside of the bow, and on the inside a similar line of pattern runs down the middle. When bows are newly made they are often also decorated with designs in red paint and white clay, particularly if they are intended as gifts. These painted designs soon wear off and are not renewed.

411 In these tribes bows are sometimes made of a size so large as to be almost useless for hunting. One such bow, now in the Cambridge

1: Radcliffe-Brown E-5 (1906-1908)1922
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Museum, is 220 cm. long and with a maximum breadth of 10 cm. Such bows are very carefully made and decorated and are intended as gifts. A man generally makes such a bow with the deliberate intention of giving it to some person whom he wishes to please. The bow that I have was specially made to give to me in this way. A man who possessed such a bow would not dream of using it in hunting, but he might use it in a shooting match, in order to show his skill.

In the South Andaman tribes toy bows are made for boys of somewhat the same shape as the ordinary hunting bow. An example of such a bow, now in the Cambridge Museum, is 121 cm. long. It is cut from a bent piece of wood in such a way that the lower portion is curved outwards. The section in the middle is plano-convex, very nearly the half of a circle, the breadth being 26 mm. and the thickness 13 mm. It is broadest in the middle, and tapers towards each end. When strung it assumes the typical S-shape of the South Andaman bow. It is served over with thread at one end and with a strip of

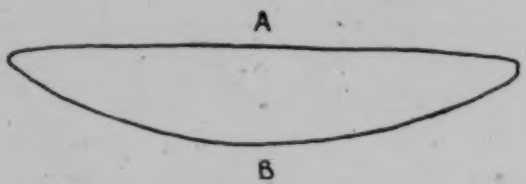


Fig. 11. Section across the blade of a North Andaman bow

cotton cloth at the other, leaving two points for the string. The latter is of the usual South Andaman type, but of smaller dimensions.

We must turn now to the bow used by the four tribes of the North Andaman, which is of a somewhat different pattern from that just described. It is, in the first place, shorter, lighter and more slenderly made. Of ten typical specimens the shortest is 153 cm. long, and the longest is 182 cm. The usual length is about 160 to 165 cm. In its broadest part the North Andaman bow is broader than the South Andaman bow, the breadth varying from 6·5 to 7·5 cm. in different specimens.

Although the North Andaman bow is, as a rule, cut from a curved piece of wood, it may, on occasion, be cut from a piece that is practically straight.

At the upper end of the bow there is a long point. In a specimen that is in every way typical, at about 5 cm. from the point the section is circular and the diameter is about 5 mm.; at about 30 cm.

1: Radcliffe-Brown E-5 (1906-1908)1922
AZ2 Andamans AZ2

411 from the end the section is slightly flattened or oval, and the maximum diameter (the breadth from side to side) is about 1·5 cm. From this the bow broadens fairly rapidly, until at a distance of about 60 cm. from the end it is 7 cm. broad. The section at a point 60 cm. from the end is shown in Fig. 11, where it may be seen to be convex on the outside and only very slightly convex on the inside. At about 75 cm. from the end the bow narrows in breadth to form a handle, at the same time increasing slightly in thickness. The handle is approximately circular in section in the middle, which is about 95 cm. from the upper end, and about 80 cm. from the lower end, the diameter being about 2·2 cm. Below the handle the bow broadens out once more into a lower blade which in shape and section is similar to the upper blade. At a distance of about 30 cm. from the lower end the bow once more narrows off to a point approximately circular in section. The lower point of the bow is not so long or so tapering as the upper point.

The whole bow thus consists of two blade-shaped portions tapering to a point at each end, and with a waist or handle between them. The upper blade is straight, i.e. is not curved either outwards or inwards. The lower blade is curved outwards (like that of the South Andaman bow) in nearly every newly made bow and in every bow that has been in use.

The upper part of the bow is served over with string for about 1·5 cm. (at a distance of 15·5 cm. from the end in the bow that has been described), and the lower end is similarly served (at a distance of 6 cm. from the end). The general shape of the bow as seen from inside is shown in Fig. 12.

283 411 The bow-string of the North Andaman is made from *Anadendron* fibre in much the same way as described in connection with the South Andaman bow, but in the North there is a loop or eye at both ends of the string. As soon as the first few centimetres of the cord have been made (by the method previously described) it is bent over into a loop, and this loop is served with *Anadendron* thread, just as in the case of the South Andaman string. The making of the string then proceeds in the usual way until a sufficient length has been made, this depending, of course, on the length of the bow for which it is intended. The end is then bent over into a loop, and this loop is served over with thread. The loose end of fibre is not in this case (as it is in the South Andaman string) twisted round the standing part of the cord, but is laid beside it, and the thread that has been used for serving is wound spirally round them both for a distance of about 10 cm. from the neck of the loop, so that the end is stopped.

1: Radcliffe-Brown E-5 (1906-1908)1922
AZ2 Andamans AZ2

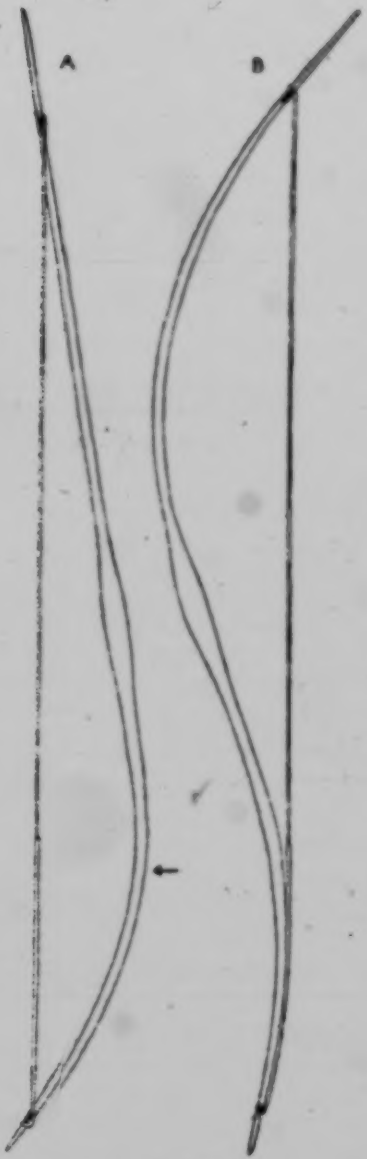


Fig. 12. Fig. 13

Fig. 12. North Andaman bow seen from the front
Fig. 13. North Andaman bow; *A*, in the half-strung or reversed position, *B*, in the fully strung position. The arrow shows the point where the bow is seasoned over the fire.

1: Radcliffe-Brown E-5 (1906-1908)1922
AZ2 Andamans AZ2

411 When the bow is to be strung the first made loop is slipped over the top end of the bow so that it rests on the thread serving already mentioned, the neck of the loop being on the inside of the bow. The bow is then laid on the ground, inside downwards, a foot is placed on the middle, and the lower end of the bow is bent upwards (and therefore outwards) far enough to allow the other loop of the cord to be slipped over the end. The bow is now in what may be called the half-strung position, and in order to understand the mechanical principles of this type of bow it is necessary to make quite clear what this position is. It is shown in Fig. 13, *A*. The string passes from the top to the bottom on the outside of the bow, so that the bow is, so to speak, reversed, and is subjected to a strain that causes it to curve outwards. In most bows, when they are first made, there is an outward curve in the lower portion, owing to the bow having been cut from a curved piece of wood. When the bow is half strung this outward curvature is increased. If a bow be made from a straight piece of wood, an outward curve is produced by the operation of stringing it, as described above.

As soon as a bow is completed it is strung in the reversed position described, and is then placed over a fire, in such a position that the lower (curved) blade is immediately above the fire. The smoke and heat of the fire season the wood of this portion of the bow. Any specimen of a bow of this type, unless it has been newly made and not seasoned, is blackened on the inner surface of its lower part. The bow is left to season in this way for some time. A man places his bow over the fire of his own hut, which is kept constantly burning day and night. It must be remembered that all the time it is being seasoned the bow is subjected to a slight strain curving it outwards.

After the bow has been sufficiently seasoned it is brought into use. When a bow that is half strung or strung in a reversed way is to be used, it is taken by the handle in the left hand, with the string away from the body, the bow being upside down. The lower part of the bow (i.e. what is really the top of the bow when it is in its normal position) is rested against the thigh. The string is taken in the right hand and pulled over towards the body, so that the bow reverses itself and appears in the fully strung position shown in Fig. 13, *B*. It is then ready for immediate use.

A bow of this type is hardly ever entirely unstrung. When a man has finished with his bow for the time being, he puts it once more in the half-strung position, by an action the reverse of that described above, and then hangs the bow over the fire. Thus while the bow is in active

1: Radcliffe-Brown E-5 (1906-1908)1922
AZ2 Andamans AZ2

use it is in the fully strung position, and at all other times it is kept in the half-strung position.

It is clear that the North Andaman bow depends on a principle that is not made use of in the South Andaman bow, which we may state by saying that if a piece of wood be subjected to the influence of heat and smoke while it is bent in one position it will acquire greater strength and elasticity to react against a strain that bends it in the opposite direction. When the bow is fully strung it is S-shaped. When it is drawn the greater part of the strain falls on the lower portion where it is curved outwards. It is this portion of the bow that is strengthened by seasoning.

The North Andaman bow is very much lighter than the South Andaman bow and is much more elastic. I always found it very difficult to shoot with a South Andaman bow, but on the other hand I found the North Andaman bow very easy to use. In drawing it only a slight pull is required in order to send an arrow with considerable velocity. The disadvantage of the northern bow is that, owing to its slighter build, it does not last very long, and is liable to be broken. However, it only takes a man a few days to make a new bow, string included, and the very definite superiority of the North Andaman bow over that of the South Andaman amply compensates for its shorter life.

Bows of exactly the same shape but of smaller dimensions are made in the North Andaman for boys, the length varying from about 90 cm. to about 120 cm. For very small boys toy bows of a different pattern are made. The bow is formed of a piece of wood about 90 cm. long and from 2 to 2·5 cm. broad in the middle. The section in the middle is convexo-convex, with a high degree of convexity on the outside and a much slighter convexity on the inside. The bow tapers to a point at each end, but it tapers more gradually at the top than at the bottom. The bow-string is a simple piece of string (two-ply) made of *Anadendron* fibre. It is tied to the lower end of the bow at a distance of 1·5 to 3 cm. from the end, and at the top it is tied at from 4 to 7 cm. from the end. The shape of a toy bow of this kind as seen from the side is shown in Fig. 14. It is not S-shaped, like the toy bow of the South Andaman previously described, but the curvature is asymmetrical.

I obtained a specimen of a toy bow made of bamboo. Unfortunately there was no string, but it was probably intended to be strung in the fashion of the North Andaman toy bow just described. The outer surface of the bamboo was the outside of the bow, with the result that in section the inner side of the bow was more convex than the outer

1: Radcliffe-Brown E-5 (1906-1908)1922
AZ2 Andamans AZ2

side. This is the only bow in the whole of the Andamans in which I ever saw this feature. In all other bows of whatever type the outer side is markedly convex and the inner side is either concave, flat or only slightly convex.

It is now possible to compare one with another the different forms of bow in use in the Andamans. It would seem almost certain that the North Andaman bow can only have been derived from the form in use in the South Andaman or from one very similar to it. It is only after they were in the habit of making bows with an outward curve in the lower portion that the natives could have devised the method of seasoning this portion of the bow and keeping it in the reversed or half-strung position. It is unnecessary to argue the matter in detail, and we may conclude that the North Andaman type is derived from the South Andaman type.

It is less certain, but still highly probable, that the South Andaman form was derived from a bow similar to that still in use in the Little Andaman. The South Andaman toy bow shows a stage intermediate between the Little Andaman bow and the usual South Andaman form. The section of this toy bow is very similar to that of the Little Andaman bow. It has no blades, and therefore no waist for the handle. The shape, however, is asymmetrical. Owing to the different method of stringing it, the shoulder at the end of the bow is unnecessary, and the bow is strengthened (prevented from splitting so easily) by tapering the end to a point instead. The difference between the toy bow and the general South Andaman bow is the presence in the latter of the two blades and the waist. The broadening of the bow into the blades is necessary in order to prevent it from accidentally reversing itself.

We have still to consider the modified form of the Jarawa bow. The origin of this is easy to discover by the examination of a few typical specimens. Since the Jarawa have been in the South Andaman they have been in hostile contact with the tribes of

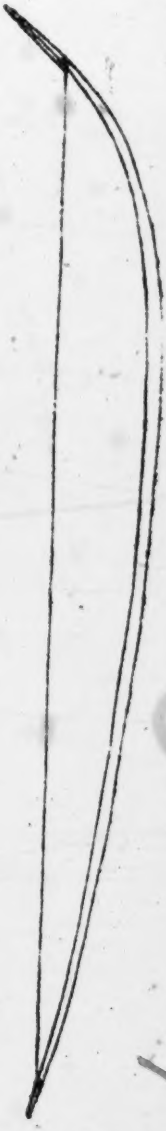
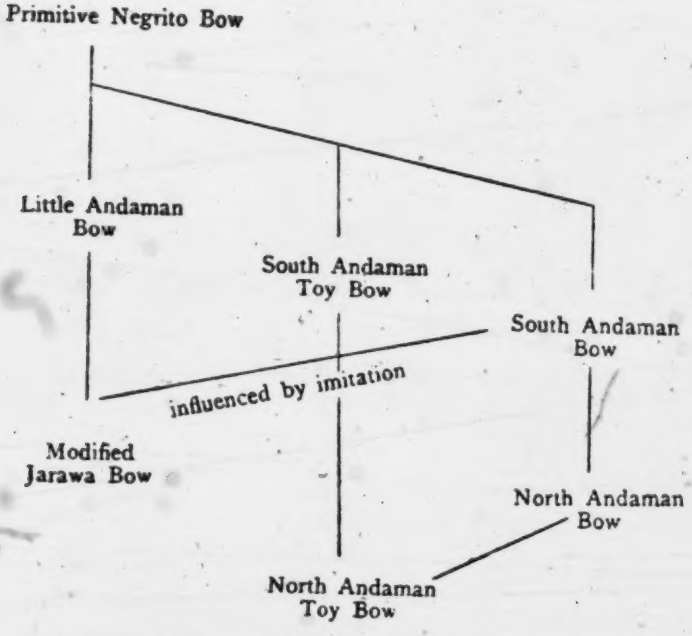


Fig. 14. Toy bow of the North Andaman

1: Radcliffe-Brown E-5 (1906-1908)1922
AZ2 Andamans AZ2

the South Andaman Division. They have had opportunities of handling bows of the kind made by these tribes, and they have apparently discovered that these bows are more efficient than their own, but they have had no opportunity, such as only friendly intercourse would give, of discovering the principles on which the South Andaman bow is made. They have attempted to imitate it to the best of their ability, and this they have done (1) by making their bows longer and broader, (2) by making them concavo-convex in section instead of convexo-convex, (3) by cutting them occasionally from wood that gives them an outward curve in the



lower portion, (4) by imitating the shape of the handle without, however, giving the bow a waist, (5) by serving over the bow-string with thread at the point where the arrow touches it, (6) by ornamenting their bows with incised and painted patterns. These are the only differences between the modified Jarawa type and the Little Andaman type, and all these may be explained as attempts to imitate the bows of the South Andaman Division. In not a single one of the modified Jarawa bows that I have seen is the fundamental principle of the South Andaman bow successfully applied.

1: Radcliffe-Brown E-5 (1906-1908)1922
AZ2 Andamans AZ2

We may conclude that the ancestors of the Andamanese at one time used a bow resembling that in use in the Little Andaman at the present day, and that the S-shaped bow of the Great Andaman has been invented since the separation of the two main divisions of the race.

It is not possible, owing to lack of sufficient information, to determine exactly the types of bow used by the Semang. The following notes are based on only six specimens, two of which are in the Museum of Ethnology at Cambridge[1], while the others are in the British Museum. Four of the specimens are sufficiently similar to one another to be regarded as belonging to one type, which seems to be the usual type of Semang bow. In length they are 165, 174·5, 182 and 197·5 cm., and at the middle they vary in breadth between 2·5 and 3 cm. Three are of palm-wood, and the other is of a light-coloured

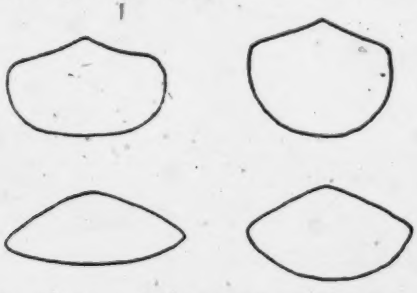


Fig. 15. Section across the middle of four Semang bows

but tough kind of wood. The shape of the section in the middle of the bow varies considerably in the different specimens, as shown in Fig. 15. There is some uncertainty as to which is the inside, and which is the outside of the bow. At each end there is a shoulder, the point or tip at one end being in every instance considerably longer than the other. The string in each case is a three-ply rope, having a spliced eye at one end and being fastened to the bow with a knot at the other end.

The other two specimens do not conform to this type. One is of wood, 134 cm. long, and 3·5 cm. broad in the middle. One end is provided with a notch on each side for the string, while the other end has three pairs of notches. The string is a three-ply cord with a loop or eye at each end. The other specimen is made of bamboo, and is 147 cm. long and 2·25 cm. broad in the middle. One end has one

[1] For information about the two specimens at Cambridge I am indebted to the kindness of Mr J. W. Layard.

1: Radcliffe-Brown E-5 (1906-1908)1922
AZ2 Andamans AZ2

pair of notches and the other has two pairs. The string is two-ply with a loop at each end.

What we may perhaps regard as the usual type of Semang bow thus differs from the bow of the Little Andaman in three important respects, (1) in having a longer point at one end than at the other[1], (2) in having a string of three-ply rope instead of a strand of twisted fibre, and (3) in the variations in the section at the middle. From the four specimens available it is not possible to determine around what norm or norms the section of different specimens varies.

Turning to the Negritos of the Philippine Islands, although a number of bows have been described by Meyer[2], the available information is not sufficient to enable us to determine what are the different types, and what is their relation one to another. Amongst the different varieties of bow used by the Negritos there is one which is very similar to the bow of the Little Andaman. It has a rounded or convex outer side, and a flattened inner side. The string loops on to a point at each end, and the string itself is formed of twisted fibre.

From a study of the available material it seems that we are justified in concluding that the primitive Negrito bow was made of wood, with a shoulder at each end, probably with a section rounded on one side and flattened or keeled on the other, and that it had a string of twisted fibre with a loop or eye at one end, the other end being attached with a knot.

The Andaman Islanders use two different kinds of arrows, one for shooting fish and the other for shooting pigs.

The common fish-arrow, as at present used in all parts of the Great Andaman Division, consists of three parts—a shaft, a fore-shaft, and a point. The shaft is a length of bamboo straightened by means of heat, and may vary in length from 70 to 110 cm. At one end the bamboo is cut off about 3 cm. beyond one of the nodes, and a nock is made (Fig. 16). At this end the shaft is roughened with a *Cyrena* shell so as to give a firm grip for the fingers. At the other end the shaft is tapered for about a centimetre. At this end the bamboo is roughened with a shell to give a hold to the thread with which it is bound. The fore-shaft is a length of wood from 15 to 40 cm. long. One end is slightly tapered so that it fits tightly into the end of the bamboo shaft. The other end is tapered to a point, which is flattened on one side. The

[1] According to Skeat the end with the longer point is the lower end of the bow (Skeat, p. 273), but Martin (p. 785) describes a bow of this type and states that the longer point is the upper end.

[2] Meyer, pp. 13—17 and Plates VI—VIII.

1: Radcliffe-Brown E-5 (1906-1908)1922
AZ2 Andamans AZ2

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fore-shaft is inserted into the end of the shaft and the joint is bound over for a distance of about 2·5 cm. with thread. The point consists of a piece of iron wire, sharply pointed at both ends. This is laid against the flattened side of the fore-shaft and is bound to it with thread in such a way that one point projects at the back to form a barb (Fig. 16). When the binding is completed it is covered entirely over with a composition made by melting together bees'-wax, resin and red ochre. The composition is melted over a fire, is applied with a short piece of wood and is then smoothed over with a hot *Cyrena* shell. Only the binding attaching the point to the fore-shaft is covered with composition, and not that at the joining of the fore-shaft and the shaft.

Arrows of this kind are used for shooting fish, but they also serve to shoot snakes or rats and on rare occasions birds.

Similar fish-arrows are made in the Little Andaman, but they are larger (i.e. both longer and thicker) than those of the Great Andaman Division. The two ends of the bamboo shaft are not roughened, and the binding attaching the point to the fore-shaft is not covered with composition (which seems to be unknown in the Little Andaman) but with bees'-wax only.

This seems to be the traditional form of fish-arrow of the Andamans. Before iron was plentiful the point consisted either of the serrated bone from the tail of the sting-ray or of a piece of the tibia of a pig ground down to the requisite dimensions on a piece of stone, and sharpened at each end.

In the Little Andaman fish-arrows are sometimes used with two or four prongs attached to a bamboo shaft. In the British Museum there is an arrow from the North Sentinel Island with four prongs tied on to a wooden shaft, each prong being barbed by a detached piece of wood at the end.

A simple form of arrow is made in both the Great Andaman and the Little Andaman consisting of a bamboo shaft with a pointed wooden head, the point being hardened in the fire. Such arrows are now very rarely used, save for shooting at a mark, but it is probable that before iron was plentiful they were used as a substitute for the fish-arrow described above, being easier to make although less serviceable.

The pig-arrow in use in the Great Andaman consists of a shaft, and a fore-shaft to which is attached a head. The shaft is a piece of the wood of the *Tetranthera lancæfolia*, cut from the tree and straightened by means of heat. At the narrower end a nock about 1 cm. deep is

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Fig. 17

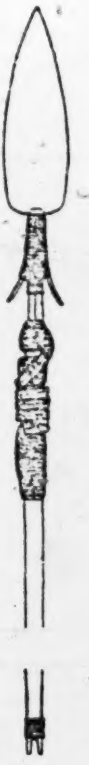

Fig. 18

Fig. 16

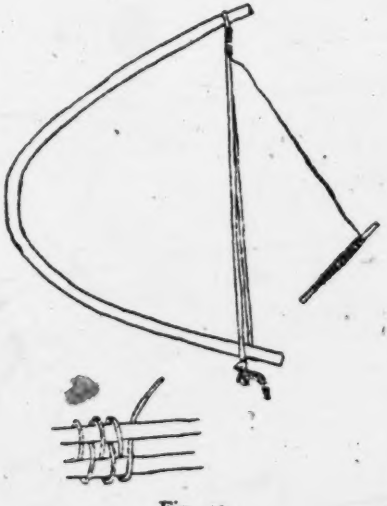

Fig. 19

Fig. 16. Fish-arrow of the Great Andaman
Fig. 17. Head of pig-arrow, Great Andaman
Fig. 18. Pig-arrow with detachable head, Great Andaman
Fig. 19. Method of making the cord of the Great Andaman pig-arrow

[p. 437]

1: Radcliffe-Brown E-5 (1906-1908)1922
AZ2 Andamans AZ2

411 cut, and the arrow is served with thread of *Anadendron* fibre for about 1·6 cm. above the nock, in order to prevent splitting. At the other end the shaft is hollowed out to a depth of about a centimetre. This hollowing is done with the point of a fish-arrow or other similar piece of pointed iron. For a distance of about 1·5 cm. the end of the shaft is served over with thread of *Anadendron* fibre, so as to prevent it from splitting.

The fore-shaft consists of a piece of tough wood one end of which is cut to such a size that it will fit fairly tightly into the hollow at the end of the shaft. At the other end it is split so as to admit the head.

411 325 The head consists of a piece of iron broken into shape with the aid of a stone hammer and then ground down and sharpened on a whetstone or with a file if one be obtainable. The usual shape is shown in Fig. 17. The head is inserted into the split end of the fore-shaft and the end of the latter is then served over with thread. A few centimetres below the head either one or two sharp-pointed pieces of iron wire are placed against the fore-shaft in the same plane as the head and are bound firmly to it with the thread, so as to provide a barb or barbs.

411 283 A cord is made and one end of it is attached to the shaft and the other end to the fore-shaft. This cord is made as follows. A number of strands of *Anadendron* fibre are taken and waxed with bees'-wax. These are made into a cord by the same method as that described in connection with the Great Andaman bow-string, one strand being wrapped round the others. About 40 cm. of single cord is made in this way and the two ends are tied together. A piece of elastic wood is bent into the form of an arc and the loop of cord is placed over this so that it is stretched tight. A length of thread (of *Anadendron* fibre) is made and wound on to a fine netting needle or on to a thin slip of wood, and the two cords as they are stretched side by side are bound together with this thread by the process known as "nippering" (Fig. 19). In this way a firm and strong flattened cord is produced. One end of this is fastened to the fore-shaft immediately above the end that fits into the shaft. The other end is fastened to the shaft a few centimetres from the end, leaving a short length of the shaft around which the cord may be spirally wound when the arrow is in use. (Fig. 18.)

411 Finally, the thread on the fore-shaft, i.e. that which holds the head and barbs in place, and also that which serves to attach the end of the cord, are covered with the composition already described as used on fish-arrows.

⅔ [Head of pig-arrow — Analyst]

1: Radcliffe-Brown E-5 (1906-1908)1922
AZ2 Andamans AZ2

Arrows of this kind are used in pig-hunting. The fore-shaft is inserted into the end of the shaft, the cord attaching the two being wound spirally round the end of the shaft. When a pig is struck the barbs prevent the head from coming out of the wound. As the pig attempts to run away the shaft catches against the undergrowth of the jungle and comes loose from the fore-shaft. Sooner or later the shaft becomes entangled in the undergrowth and holds the wounded pig fast till the hunters can come up with it and despatch it. It is obvious that the cord of the arrow needs to be so strong that the pig cannot break it.

The natives of the Great Andaman tribes say that before they had plenty of iron they made similar pig-arrows with heads of shell and barbs of pig's bone.

The natives of the Little Andaman make a pig-arrow very similar to that of the Great Andaman tribes, but on the average somewhat longer. The cord attaching the fore-shaft to the shaft consists of a length of double two-ply rope of *Hibiscus* fibre. The binding of the arrow is done with thread of the *Gnetum* fibre instead of *Anadendron*, and is not coated with composition but is smeared with bees'-wax. The barb (there being usually only one) is not fixed in the same plane as the head, but in the plane at right angles to it. (Fig. 20.)

Amongst the Jarawa the head of the pig-arrow is attached to the fore-shaft by a different method, holes being made in the iron through which the thread that holds it is passed. (Fig. 21.)

Another kind of pig-arrow is sometimes made in the Great Andaman that has not a detachable head. The shaft is a length of bamboo into one end of which is fitted a fore-shaft of wood. The end of this fore-shaft is split and a head of iron is inserted into it and bound there. Such an arrow may be without barbs or may have one or two barbs of iron. It is used only rarely and then chiefly for despatching a pig that has already been struck by an arrow of the usual kind. The natives say that in former times arrows of this kind were used in fighting in preference to ordinary pig-arrows, which, however, were also used.

In former times the natives of the Great Andaman, according to their own statements, made an arrow consisting of a bamboo shaft at the end of which was inserted a head made of *Areca* wood. An arrow of this kind, made for me by a native, is shown in Fig. 22.

None of the arrows made in any part of the Andamans is feathered.

In a comparison of the arrows of the Andamanese with those of the Semang and the Philippine Negritos the most interesting point is that

1: Radcliffe-Brown E-5 (1906-1908)1922
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Fig. 20

Fig. 21

Fig. 22

Fig. 23

Fig. 20. Pig-arrow, Little Andaman
Fig. 21. Head of Jarawa pig-arrow
Fig. 22. Arrow with head of *Areca* wood, Great Andaman
Fig. 23. Harpoon, Great Andaman

1: Radcliffe-Brown E-5 (1906-1908)1922
AZ2 Andamans AZ2

all three branches of the Negrito race use arrows with detachable heads. Arrows of this kind from the Philippines are described by Meyer[1].

An important point of difference would seem to be that while the Andamanese do not feather their arrows the Semang and the Negritos of the Philippines do so. It would seem, however, from the account of Semang arrows given by Skeat[2] that the feathering is such that it is of no actual service in directing the flight of the weapon, and that it is doubtful whether the Semang really understand the principle of feathering, or whether they do not employ it as the mutilated survival of more intelligent methods or perhaps make use of it for solely magical purposes.

Another important point of difference is that the Semang poison their arrows, while the Andamanese do not. In this connection it must be remembered that the former people have for long been neighbours of people who use blow-pipes with poisoned darts.

After the bow and arrow the most important hunting weapon of the Great Andaman is the harpoon which is used in capturing dugong, turtle, porpoise, and large fish. The harpoon consists of a head, a shaft and a line. The line is a length of rope of *Hibiscus* fibre of as much as twenty fathoms or more in length. The shaft is a bamboo of about 18 feet in length. One end is cut off fairly near a node and is then served over with thread, and slightly hollowed. The head consists of a long piece of iron, such as a stout nail, brought to a sharp point at one end. The other end is served over with thread in such a way as to make it fit fairly tightly into the end of the bamboo shaft. Some distance from the point of the head two barbs of iron are attached by thread, and between this point and the lower end the line is attached. (See Fig. 23.)

A man using the harpoon stands on the forward platform of the canoe, holding the bamboo shaft in his hand. The head is inserted in the upper end of this, and the line passes over his shoulder and is coiled in the bottom of the canoe, the other end being attached to the forward out-rigger boom or to the thwart that takes its place in a large canoe. He poles the canoe along the reef with the harpoon shaft. When about to make a throw he raises the shaft till he can hold the butt end in his right hand, with the point directed towards the fish or turtle, and he then leaps forward so that if he succeeds in his aim the weapon strikes with all the force of his weight behind it. When the turtle or fish is struck the bamboo shaft floats loose and this is secured

[1] Meyer, Plates VI and VIII.

[2] Skeat, p. 274.

1: Radcliffe-Brown E-5 (1906-1908)1922
AZ2 Andamans AZ2

by the man in the water, who returns to the canoe. It may be necessary to strike the prey with a second harpoon, but if the first was well thrown the animal is firmly held by the line.

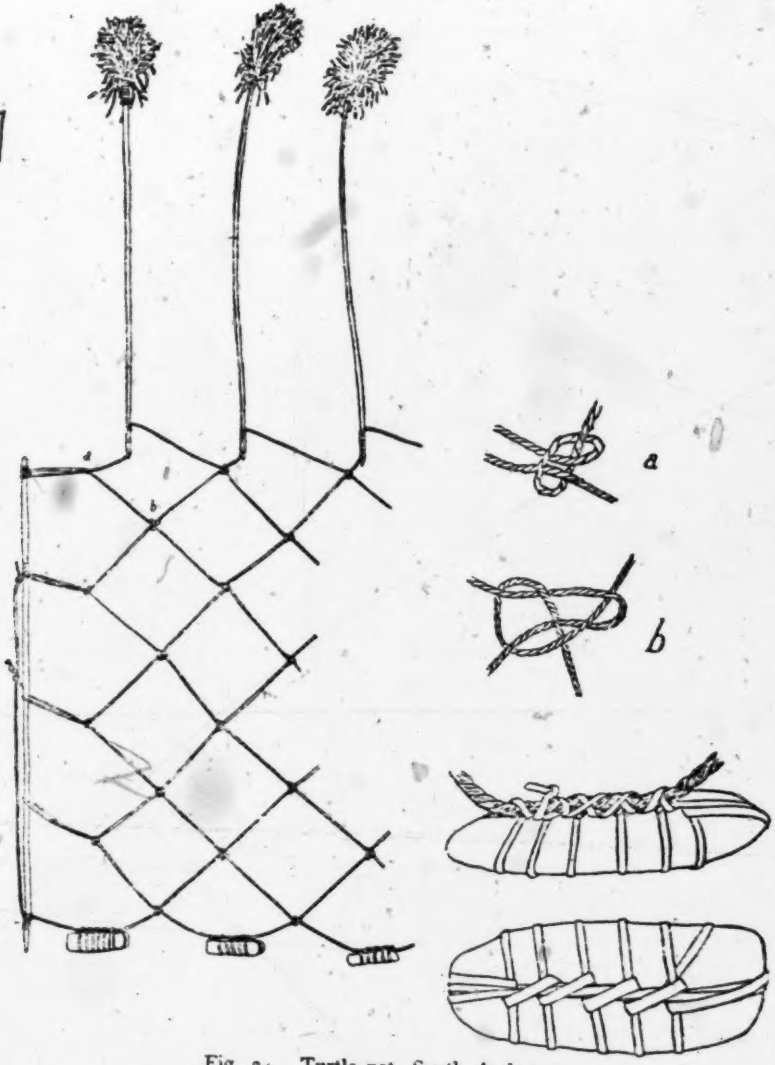

Fig. 24. Turtle net, South Andaman

Harpoons are not used in the Little Andaman. The natives of the Great Andaman say that they themselves have only used them since

1: Radcliffe-Brown E-5 (1906-1908)1922
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they were able to obtain iron and that before that time they could only capture turtle and dugong in nets. It would seem therefore that the harpoon has been invented or adopted by the tribes of the Great Andaman Division in comparatively recent times, and was not an element of the primitive Andamanese culture.

The turtle net is no longer used, as the natives prefer the harpoon and have all the iron they need. Such nets were formerly made of rope of *Hibiscus* fibre. A net was about 150 cm. in width and of variable length. One specimen that was made for me had an open mesh of about 25 cm. square, while another had a smaller mesh. The knot used in a net from the South Andaman is the ordinary fisherman's knot shown in Fig. 24 *b*. In a net from the North Andaman the knot used is a slip-knot, one strand being tied with an overhand knot over another which it crosses at right angles as shown in Fig. 25.

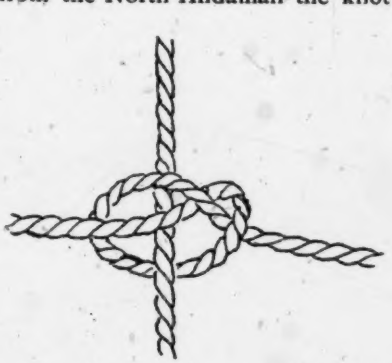

Fig. 25. Knot used in making the North Andaman turtle net

Each end of the turtle net is attached to a stake pointed at the lower end. The lower edge of the net is weighted with stones attached as shown in Fig. 24, while to the upper edge are attached a number of floats, each consisting of a long thin stick of *Hibiscus* wood to the upper end of which is attached a tassel of fibre.

The net was placed in shallow water so that the stones rested on the bottom while the tassels at the upper ends of the floats appeared above the surface. As soon as a turtle was entangled in the net the agitation could be observed by those watching who would proceed to the spot to secure their capture.

So far as is known it would seem that nets of this description are not used in the Little Andaman.

The Andamanese make practically no use of spears. At the present time the natives of the Great Andaman Division sometimes make pig-spears of a length of stout cane or rattan with a head of iron attached. The natives themselves say that such spears have only been made since the occupation of the islands, and it is probable that they were first made in imitation of spears used by Burmese convicts for pig-hunting. They are hardly ever used, the pig-arrow being preferred.

1: Radcliffe-Brown E-5 (1906-1908)1922
AZ2 Andamans AZ2

441 The true fish-spear is unknown in the Andamans though use is sometimes made of a harpoon similar to the turtle harpoon, but of smaller dimensions and with a finer line, for harpooning fish.

227 In the North Andaman a sort of fish-gig was formerly in use made of about twelve pieces of *Areca* wood of about 105 to 110 cm. long and 1 cm. or less broad and with tapered and sharp-pointed ends. These were fastened side by side by means of a strip of wood near one end, as shown in Fig. 26. This weapon was used for spearing small fish in pools on the reef.

Fig. 26. North Andaman fish-gig

CUTTING IMPLEMENTS.

412 177 At the present time the Andamanese make use of iron for their cutting implements. It is uncertain when they first learnt the use of iron, but it was certainly before the end of the eighteenth century. What iron they had was obtained from wrecks, of which there have always been a number on the Andamans. The metal has only become plentiful since the European settlement of 1858.

412 325 It is highly probable that the Andamanese, though they may have learnt the use of iron from implements used by visitors to their shores, have not learnt from any other people the method of working the metal. Even at the present day they do not make any use of heat in the manufacture of their iron implements, the metal being worked cold. It seems highly probable that they have simply adopted in connection with iron the methods they formerly used in dealing with other materials, particularly shells.

The materials used by the Andamanese, apart from iron, are wood, bone, shell and stone. We may begin by considering their use of stone.

412 324 In former times quartz flakes were used by the Andamanese for the two purposes of shaving and scarifying the skin, and for hardly any other purpose. (Among minor uses of stone flakes may be mentioned those of cutting the finger-nails, and sharpening boars' tusks.) A quartz pebble is held in the left hand and is struck with a hard rounded pebble of any suitable kind. A flake is thus knocked off and falls into the palm of the left hand. The flake is examined, and if it be suitable it is

1: Radcliffe-Brown E-5 (1906-1908)1922
AZ2 Andamans AZ2

hands of an Andaman Islander is a very efficient implement, producing a beautifully smooth and even surface.

Of wood the Andamanese formerly made knives and arrow-points. The knives were made of a slip of bamboo or cane shaped and sharpened with a *Cyrena* shell. Such knives were used for cutting meat and apparently for no other purpose. A knife was always attached by a short length of cord to a skewer of pointed *Areca* wood. The double implement was used in cooking and eating, the skewer serving to lift pieces of meat in and out of a pot, while the knife served to cut them. At the present time the cane or bamboo knife is replaced by a knife made from hoop-iron, but the shape of the original implement is retained as nearly as possible and a skewer of *Areca* wood is generally attached to it.

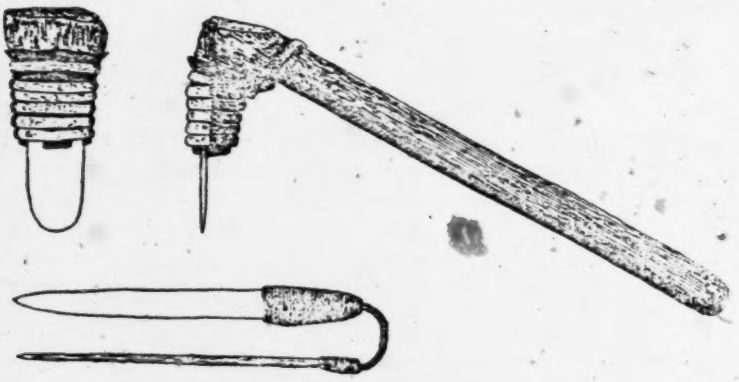

Fig. 28. Adze and knife

As has been already stated the Andamanese formerly used hard wood such as that of the *Areca* palm for the points and heads of their arrows. They do not seem to have made use of bamboo in this way.

At the present time iron is used for the blades of adzes, for the heads and barbs of pig-arrows, the points of fish-arrows, the heads of harpoons, and for knives. The method of working the metal is apparently exactly the same as the method they formerly used for working shell and bone. For the head of a pig-arrow a suitable piece of iron is taken and a fragment of about the right size is broken off by means of a stone hammer. This is then roughly broken into the required shape, no heat being used, and no advantage being taken of the malleability of the metal. The next process is to grind it on a

1: Radcliffe-Brown E-5 (1906-1908)1922
AZ2 Andamans AZ2

411 412 325 whet-stone. The natives are always eager to obtain files which enable them to do this part of the work much more rapidly. When the arrow-head has been ground into shape the edges are sharpened. Blades for adzes are made in exactly the same way from any suitable piece of iron or steel, such as a cutlass or an old file or a piece of thick hoop-iron. The adze-blade is attached to a handle of mangrove wood by the method shown in Fig. 28.

The barbs of pig-arrows and the points of fish-arrows are made in the same way by breaking the metal into a suitable shape and then grinding it on a whet-stone. It is probable that this was the method that was formerly used for dealing with bone for these purposes.

In the case of the knife, iron or steel is now substituted for cane or bamboo, but the knife has retained its shape in spite of the change of material. The shape of a knife, whether of cane or of iron, with its attached skewer of *Areca* wood is shown in Fig. 28.

In the case of the harpoon the native tradition is that this implement was only made after they had discovered the use of iron.

177 325 At the present time both the Semang and the Negritos of the Philippines make use of iron. The Semang heat the iron until it is red-hot and then batter it into shape between two stones[1]. The shapes of the iron weapons and implements which they make follow fairly closely those made by the Malays.

In an attempt to reconstruct the primitive Negrito culture it would seem that the most reasonable hypothesis is that the primitive Negritos had no knowledge of iron and had not learnt to fashion implements out of stone, but relied entirely on such materials as wood, bone and shell. The Andamanese, becoming possessed of iron through wrecks upon their islands, applied to it the technique that they had developed for dealing with shell, and thereby invented their present method of working iron without heating it. The Semang and the Negritos of the Philippines probably first learnt the use of iron from their neighbours of other races. There is not at present any evidence to show that the Negritos ever had any method of working stone except the very simple one at present in use in the Andamans for making flakes.

STRING, ROPE, MATS, BASKETS, AND NETTING.

283 For string, rope and thread the Andaman Islanders make use of a number of different vegetable substances, but they make no use what-

[1] Skeat, p. 383.

2:Man G-5 (1869-1880)1932 AZ2 Andamans AZ2

PLATE I.

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E. H. MAN, IN 1875 WITH NATIVE BOYS, THE FIVE JOINT AUTHORS OF THE "LETTERS TO JAMBU" IN 1879.

(*See* p. 60, Alexander J. Ellis's Report.)

[facing p. VI]

2:Man G-5 (1869-1880)1932 AZ2 Andamans AZ2

neighbouring tribe, an express invitation or permission is required, unless, indeed, the party entering happens to be accompanied by one or more members of the district visited, or when, from long and friendly intercommunication, a right of way has been tacitly sanctioned. In cases where there has been a breach of this observance sharp retribution has generally followed, causing sometimes serious loss of life, and resulting in a long-standing tribal feud.

3. Those communities of *ē·rem-tâ·ga-* and *àryô·to-*, living within a few miles of each other and speaking the same dialect, arrange from time to time large gatherings—generally numbering about a hundred persons[1]—for purposes of barter, or for the celebration of some particular event. Though not unfrequently on these occasions old enmities are healed and friendships formed, fresh tribal feuds and personal quarrels sometimes originate in consequence of a misunderstanding or dispute over some comparative trifle.[2]

4. There are numerous paths intersecting each territory, the result of continuous traffic over the same ground. When, for some reason, a new course is taken through the jungle, the route is indicated to those following by bending the twigs of the brushwood in a *reverse* direction at intervals along the track. This is especially the case during the dry season, when, owing to the parched condition of the soil, there is some difficulty in distinguishing footprints.[3]

5. No marks on rocks, trees or other objects, made for purposes of record, are believed by them to exist, and, with the exception of the supposititious hieroglyphics,[4] hereafter to be mentioned, nothing of the nature of writing is to be found among these tribes, nor have they any method of recording the name and exploits of a deceased chief or other individual who may have gained distinction during his life, save the narration —more or less garbled—of the same by their admiring descendants. The messenger who conveys intelligence to a distant encampment bears no outward token with him to testify to the authenticity or character of the communication he has to make.

6. Although no method of signs exists, such as tying knots in a string, making notches in a tally, or figures on wood, bark, or stone, they have means of distinguishing arrows and spears belonging to one another, by certain differences peculiar to each

[1] It is believed that no larger number than 300 has ever been assembled at one time in any place in our vicinity, at least since our advent.

[2] *Vide post* "Games and Amusements," paragraphs 24 and 37.

[3] No prejudice exists in respect to crossing water, going by certain paths, or handling particular objects, excepting the *Anadendrum paniculatum*. *Vide post*, Part III, "String," paragraph 3.

[4] *Vide* "Mythology," paragraph 29.

2: Man G-5 (1869-1880)1932 AZ2 Andamans AZ2

individual in the method of tying and knotting the string employed in the manufacture of these missiles;[1] these, however, are often so slight that, even when pointed out, they are scarcely to be detected by a stranger, unless he be one who has bestowed careful attention to the subject.

7. In their savage state they never attempt to represent any object, and, though they do not appear to possess any natural taste for drawing, they differ from the Australians[2] in the intelligence they display in recognising any familiar form depicted in a sketch; and while no such method for indicating the situation of any place is known or employed among themselves, some of them are quick in understanding a chart of their own country, and are able to point out the sites of their various encampments.

8. It is hardly necessary to state that they have nothing answering to mile-stones or roadside marks. Swamps are never crossed, but in all cases avoided by circuitous routes; experience seems to have taught them the natural line of fords from salient to salient banks, and, when a creek has to be crossed, they always avail themselves of the advantages thus afforded, even making a detour in order to do so.[3] This applies, however, to those occasions when they are not heavily laden, or are carrying articles liable to be damaged by immersion, or which would hinder them from swimming.

Swimming.—1. With the exception of some of the *ē·rem-tâ·ga-*,[4] a knowledge of the art of swimming is common to members of both sexes; the *children* even, learning almost as soon as they can run, speedily acquire great proficiency. In this accomplishment the Andamanese greatly surpass the majority of Europeans, but it is probable that, in competition with an experienced English swimmer, their best men would be distanced in the first few hundred yards, it being not so much for speed, as for the length of time they can remain in the water, that they are remarkable.

[1] With reference to this circumstance, it may be mentioned that, a few years ago (1876), five aborigines, concerned in the murder near Kyd Island of some Chinese traders with whom they had had a dispute, were discovered by means of the arrows found on the spot, as these were identified by some of their acquaintances then living at Port Blair.

[2] Brown. [From remarks, however, contained in a recent article, entitled "The Indo-Chinese and Oceanic Races," by Mr. A. H. Keane, which appeared in "Nature" (Jan. 6th, 1881), it would appear that the low estimate of the Australian intellect formed by certain ethnologists is not shared by all, and "many instances are given of their skill even in drawing, a capacity for which was wholly denied them."]

[3] Wells are not dug, but when encamping, whether for days or months, care is always taken that the spot selected be near some fresh-water stream.

[4] The reason of this is obvious, as it is known that the majority of the creeks are fordable in many places within three miles of the coast, even in the rainy season, and, therefore, the necessity of acquiring the art of natation has never been experienced by those permanently resident in the interior.

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PLATE VIII.

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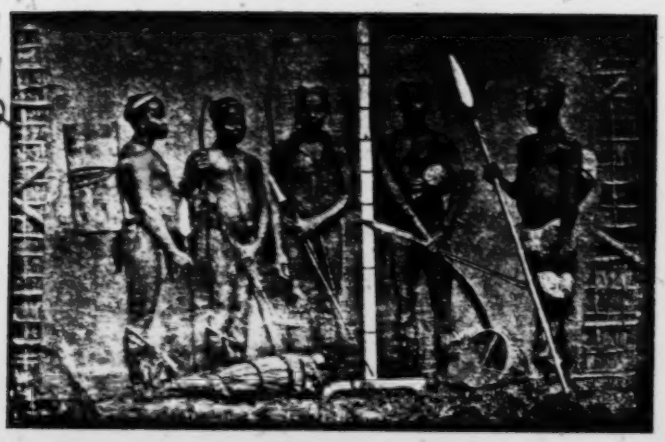

ANDAMANESE EQUIPPED FOR JOURNEY.

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ANDAMANESE SHOOTING, DANCING, SLEEPING, AND GREETING.

[facing p. 110]

2:Man G-5 (1869-1880)1932 AZ2 Andamans AZ2

3. Females take no part in these expeditions, and boys seldom accompany their elders until after their twelfth year.

4. If more than a few hours' absence is anticipated, besides a supply of provisions, a smouldering log is entrusted to some one member of the party, whose duty it is to prevent its extinction,[1] and to kindle it into a blaze whenever a fire is required. No immediate honours are conferred upon the successful sportsman, but stories of feats of extraordinary prowess are related, with more or less embellishment, from time to time for the benefit of the young and the edification of strangers. No record is kept of the game killed, but, as those distant tribes who are not yet possessed of dogs (or only of a very few) still retain the primitive custom of suspending the skulls of their victims from the eaves or on poles round their huts, a fair idea of their success can be formed by themselves and others from the number thus displayed.

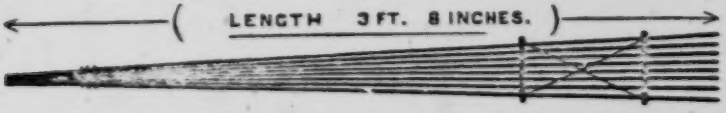
5. Whether in hunting game or in attacking an enemy, the bow (*kâ·rama-*) and arrow are employed, and these are almost[2] identical in form among all the eight tribes of Great Andaman. For spearing turtles and large fish a harpoon (*kowai·a l'ó·ko dū·tnga-*[3]) is used: as a description of this serviceable weapon and of the mode in which it is employed, has been given in Appendix B, it is unnecessary to repeat the information in this place.[4] The only other weapon in use is the pig-spear

[1] *Vide ante* "Fire," paragraph 6.

[2] The comparatively slight difference existing between the form of the five *bójig* and three *yê·rewa-* bows, and the wide distinction observable between both of these and the *jâr·awa-* (Little Andaman) bow will be best seen by referring to Plate VI, figs. 1, 4, and 3 (*vide* also Appendix B, item 1).

[3] *Vide* Appendix B, item 10.

[4] In reference to the subject of *fish-spears* an interesting discovery was made on the occasion of the last visit (October, 1882) paid by Mr. H. Godwin-Austen, now in charge of the Andaman Homes, to North Andaman. Some six or more specimens of what, I believe, is quite an unique wooden fish-spear were seen in one or two of the *yê·rewa-* canoes. As one was fortunately brought away a sketch is here given of it. It reminds one somewhat of the fish-spears used by the Nicobarese (*vide* Journ. Anthrop. Inst., vol. vii, Plate XV), though very inferior, and is doubtless, like them, intended for spearing small fish. It is called *tî·remo.*



The eight long wooden spikes are not tied together in a circular form as in the case of the Nicobar *hokpûk* but in a row, and, as will be inferred from the drawing, they are held in that position by means of two short pieces of wood lashed to them at right angles: from the appearance of the lower end of this weapon, it would seem probable that it is fixed—like the *kowai·a l'ó·ko dū·tnga*—into a bamboo shaft when about to be hurled, but I have ascertained lately that this is not the case, it is merely held at the pointed end.

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The only other weapon in use is the pig-spear
411 (*ērdūtnga-*[1]), which is of comparatively recent introduction, its
[177] adoption being due to the abundance of iron obtainable for some time past by the *.bōjig-ngīji-* and other tribes near our settlement at Port Blair.

6. To an untrained eye no difference is noticeable in the appearance of the weapons of similar style and construction, but the aborigines are quick in detecting individual peculiarities in the manner of knotting the strings of bows, arrows, &c.[2]

7. As has been remarked by General Pitt Rivers,[3] the bows of the Great Andaman tribes, especially those of the southern half, known to the islanders as the *.bōjig kārama-*, resemble those in use in Mallicollo, one of the New Hebrides, and in New Ireland, being of a "peculiar flattened S-shaped form, curved towards the firer in the upper part as held in the hand, and to a slight extent the reverse way at the bottom."[4]

8. Except in the case of boys living on or near the coast,
[824] whose toy bows are often made of the *Rhizophora conjugata*, the wood of the mangrove is rarely, if ever, used, and the bamboo *never*,[5] for they find that certain other trees,[6] are more suitable for their purpose.

9. No whalebone or sinews are used for the purpose of imparting additional elasticity to the bow, and no evidence is forthcoming to show that they ever applied poison to their arrow or spear-heads—in fact, the only poison known to them
[824] appears to be the *Nux vomica*, and this they merely avoid as a noxious or useless plant.

10. It is true that certain passages in Dr. Mouat's book[7] convey a contrary impression, for, from the observations made during his short trip round the islands, he seems to have entertained no doubt that these savages habitually applied poison to their arrow-heads;[8] but, in the sense in which I understand his

[1] *Vide* Appendix B, item 9.

[2] For an example of this *vide ante* "Communications," &c., paragraph 6 (footnote).

[3] *Vide* Journ. Anthrop. Inst., vol. vii, p. 440.

[4] In the ethnographical department of the museum at Maidstone, I have lately observed a bow from Banks Island (New Hebrides), which bears a striking resemblance to the commonest form of the peculiar *.bōjig* bow, for sketch of which see Plates II and VI.

[5] "Their weapons are bows and lances of iron-wood. The former are bamboo. . . ." (Grant vol. ii., p. 378.) [Their spears, at least those of Great Andaman, have never yet been seen by us made of iron-wood.—E. H. M.]

[6] *Vide* Appendix B, item 1.

[7] Pp. 324 and 330.

[8] It may be of interest to mention in this place a curious alleged fact which has been brought to my notice by the petty officers and others connected with the homes, *i.e.*, that the wounds which are inflicted now-a-days by the iron-headed arrows of the Andamanese are not so painful or so liable to fester as they were formerly, and this they attribute to the fact that, while it has always been the practice of these savages when sharpening their blades to

2:Man G-5 (1869-1880)1932 AZ2 Andamans AZ2

remarks, I am persuaded that he has credited them with more intelligence on this point than they possess.

11. The origin of the belief appears to be traceable to the fact that they generally in former times tipped their arrow-heads with fish-bones,[1] more particularly the serrated tail-bone of the sting-ray, which, as is well known, is capable of inflicting a very serious wound in consequence of the liability of the fine brittle spikes to break off and remain in the flesh after the extraction of the arrow, thereby causing, in the majority of cases, bad ulcers, which, in the absence of skilful treatment, frequently resulted in the sufferer's death.[2]

12. The maladroitness of strangers who have failed even to bend the Andamanese bows[3] has apparently been due to their having held the wrong end uppermost, for, so far from there being any difficulty in using even their strongest bows, it has been proved that after a little practice Europeans are able to compete almost on even terms with all but the few "crack" shots among the aborigines, provided at least that the object aimed at be stationary; but they less readily acquire the skill which the Andamanese display in rapid shooting, and in discharging the arrow with the full force of which it is capable.

13. The large bows (from 5½ to 7 feet long) are constructed chiefly for ornament and presentation to friends, and are seldom used except for shooting fish and pigs along the shore. The smaller kinds are preferred in jungle expeditions, and on most other occasions, as they are more convenient and also more easily replaced in case of accident, less time and trouble being required for their manufacture.

14. One of the chief drawbacks to the bows used by these tribes is that they cannot be fired in silence,[4] in consequence

moisten them with saliva, the inmates of the homes—who are those chiefly employed as jungle police—now eat *salt* with their food, which was never the case fifteen or twenty years ago. Whether, assuming the story to be true, the effect can be accounted for by the circumstance stated, or, as seems more probable, is due to the improvement in the physical condition of the convicts since the early days of the settlement, is a question for medical authorities to decide.

[1] Writing nearly a century ago, Colebrooke mentioned that "their arrows are headed with fish-bones, or the tusks of wild hogs; sometimes merely with a sharp bit of wood, hardened in the fire, but these are sufficiently destructive." [The *fibula* (*ar-pĕ'ti-*) of the pig was also used for the same purpose.]

[2] *Vide* footnote to Appendix B, item 53.

[3] *Vide* Mouat, p. 321. Had Dr. Mouat's remarks applied to the Little Andaman or other *jărawa-* bows, which are of totally different construction (*vide* Plate VI), they would have been more readily understood, for even the aborigines of Great Andaman have experienced much difficulty in shooting with the few specimens of this weapon which have fallen into their hands; doubtless, therefore, much knack and practice, as well as strength, are needed in using them.

[4] From this defect the *jărawa-* bow appears to be exempt which is easily

2:Man G-5 (1869-1880)1932 AZ2 Andamans AZ2

of the string striking the lower or convex portion of the weapon.[1]

15. There are five varieties of arrows, viz.: the *râ·tà-*, the *tī·rlē·d-*, the *tô·lbō·d-*, the *ē·la-*, and the *ē·la l'â·kà lū·pa-*, none of which are provided with more than one point or blade.

16. The first of these (*râ·tà-*) is used in their games, and is the first form which their fish arrows take; it consists of a shaft made of *Bambusa nana*, to the end of which is fastened a piece of hard wood, which is rendered harder and less liable to split by being gradually heated over a fire: this foreshaft also gives the necessary weight to ensure accuracy of flight, and to increase the force of penetration. The *tī·rlē·d-* is merely a *râ·tà-* with its point sharpened for use, in shooting the smaller varieties of fish. The *tô·lbō·d-* is a *râ·tà-* with an iron point, and generally a barb as well, secured to the head: it is chiefly used in fishing. The above three arrows usually measure 4 feet 6 inches to 4 feet 9 inches in length, while the remaining two, of which a sufficient description will be found in Appendix B, do not generally exceed 3 feet 6 inches.

17. The Andamanese take especial pride in keeping the bladed heads of their arrows and spears as bright as possible: the shafts are straightened by dint of pressure with teeth and fingers, but no feathers or other devices are employed to increase the velocity of flight. As illustrations of their arrows and other weapons will be found in Plates VI, VII, VIII, and IX, and as, in Appendix B, I have described their manufacture, it is unnecessary for me here to repeat the information which can be obtained by reference.

18. There are one or two points connected with the iron-bladed arrows to which, I believe, attention has never yet been drawn. I allude to the position of the barbs and the object of the seam. In the *ē·la-* the blade is so fixed as to be in a line with the seam of the fastening at the end of the shaft, and, whether provided with one or more barbs, these are always placed in a line with the blade; the seam above referred to being used as a "sight." In the *ē·la l'â·kà lū·pa-*, which has no seam, the barb which is most in a line with the blade is used as a "sight," and accordingly placed uppermost. In forming these blades they shape them so as to allow of a small portion being inserted in the foreshaft (see fig.), and it is then fixed as firmly

accounted for by the resemblance it presents to the ordinary European pattern; this, however, appears to be the sole advantage which it possesses over the two varieties used in Great Andaman.

[1] *Vide* "Superstitions," paragraph 5, and "Religious Beliefs," paragraph 19

2: Man G-5 (1869-1880)1932 AZ2 Andamans AZ2

as possible by means of string,[1] which is protected with a coating of *kâ·ngatâ-bŭj-*.[2] 411

19. It is a singular fact that the mode in which the tribes of Great Andaman discharge their arrows differs from that in vogue among the *jâr·awā-*. While the latter are said to adopt the plan usual among ourselves of holding the nock of the arrow *inside* the string by means of the middle joints of the fore and middle fingers and drawing the string with the same joints, it is the practice among the former to place the arrow in position between the thumb and top joint of the forefinger, and to draw the string to the mouth with the middle and third fingers. The feet are only used in stringing and unstringing the bows, and never for bending the bow in shooting, as was at one time supposed to be the practice among the *jâr·awa-*, whose long and clumsy *kâ·rama-* have puzzled the *.bō·jig-ngī·ji-*, as well as ourselves, to use with any effect.

20. In Great Andaman the waistbelt[3] *(bōd-)* or other cincture often does duty as a quiver while fishing and hunting, and the arrows are placed behind, with the heads upwards, both in order to avoid causing injury or inconvenience by hindering freedom of action, and to be readily seized and brought into position for firing.

21. Their pointed arrows carry with considerable effect to a distance of 40 or 50 yards. A *tō·lbō·d-* has been found to pierce a deal plank 1½ inch thick at the former range, and probably up to 100 yards one of these arrows is capable of inflicting a serious wound, but an accurate aim is scarcely possible beyond less than half that distance. In the case of the two varieties of pig-arrow much less can be attempted, as these ill-balanced, though formidable, missiles will not carry with certainty further than 12 to 15 yards, and if fired at wider ranges usually fly very wildly.

[1] A better method has, however, been adopted by the *jâr·awa-*, viz., that of making three holes in the blade, and passing through them the string which secures it to the foreshaft, thus rendering disconnection of the parts a matter of some difficulty. The precaution thus taken against loss of the blade is evidently due to the comparative scarcity of iron in their territory, which circumstance is the natural consequence of the attitude of hostility, or of avoidance of intercourse, which has been persistently maintained towards the eight Great Andaman tribes, as well as towards ourselves, by one and all of the various scattered *jâr·awa-* communities. [With reference both to this sketch and that of the *.bŏ·jig ō·la-* head, in paragraph 18, it should be added that these are mere sectional drawings of these objects. In the finished arrow the string-fastening is carried up to the base of the blade, and the whole of this string work is finally coated with *kâ·ngatâ-bŭj-*.]

[2] *Vide* Appendix B, item 62.

[3] *Vide ante* "Attire," paragraph 3.

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411 [177] 22. It is not found that they have any inclination to adopt civilised weapons or tools in lieu of their own, but they have not been slow to avail themselves of the facilities afforded them in recent years for substituting iron for shell, bone, and (?) stone,[1] in the manufacture of their various implements.

23. The blow-pipe, which is used so generally by the Negritos (*Semangs*) of the Malayan peninsula, finds no place among the weapons of these savages. Its absence may be readily accounted for, firstly by their ignorance of poison, or at least of any method of utilising such knowledge as any of them may possess, and secondly by the fact that they are so well able to supply all their wants with the implements already referred to in the foregoing, that their inventive faculty has not been sharpened by the pangs of hunger to devise other or more effective means of destruction. It may be added that slings, throwing sticks, clubs, bird-bolts, or blunt-headed arrows for stunning animals or birds, are likewise not in use among them.

[224] 24. Although the pig is the object of their chase in their hunting expeditions, they invariably take a few of their pointed arrows, preferably the *tó-lbō-d-*, on the chance of coming across some smaller game, such as an iguana or paradoxurus.[2] To facilitate rapid shooting a man will often hold a number of arrows in the hand which grasps the bow.

[225] 25. From constant practice they are, as might be supposed, very skilful at shooting fish under water. Dr. Brander has correctly observed that "they seem intuitively to have calculated with great accuracy the difference of direction to be allowed for oblique aqueous refraction;" but these shots are almost always, if not invariably, made at a distance of a few yards only, and never so far as "30 yards,"[3] or "with three-pronged barbed arrows," such missiles being neither made nor used, at least by any of the Great Andaman tribes.[4]

883 224 26. Boys soon learn to practice at near objects with the small bows and arrows to which allusion has already been made, and many of them often contribute materially to the family larder by their early prowess. It is a common sight to see youths and children (and even their elders), when travelling, wantonly shoot at small passing objects, both on land and in the water, by way

[1] *Vide* Journ. Anthrop. Inst., vol. xi, p. 271.

[2] While these two animals are killed at all seasons of the year, the pig-hunts take place chiefly during the rains, when this animal is in excellent condition, and their diet, owing to the comparative scarcity of fruit and honey, less varied; even if with young the pig is not spared.

[3] The well-nigh impossibility of ever seeing from the shore or from a canoe a fish swimming at such a distance would sufficiently account for this.

[4] It is possible that Dr. Brander saw the *single* specimen of an arrow answering to this description which was obtained in 1880 from North Sentinel Island.

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of practice or to display their skill. No reproach is offered by the bystanders to one who wounds an animal without killing it.

27. Pigeons, waterfowl, ducks, and flying-foxes are sometimes shot, but never while on the wing, or when perched in such a position as to risk the recovery of the arrow.

28. In addition to the bows and arrows, their hunting gear consists generally of a hone (*tâ·lag-*[1]), a *Cyrena* shell (*ū·ta-*[2]), an adze (*wō·lo-*[3]), and often now-a-days a spear (*ēr-dū·tnga-*[4]); sometimes a knife (*chô-* or *kô·no-*[5]) is also taken, but as the blade of the pig-arrow or spear can be made to serve this purpose, it is not regarded as an essential part of their equipment.

29. They employ no stratagems for deceiving or decoying game, nor do they prepare snares or pitfalls for it.

30. When unaccompanied by dogs the hunters usually follow the pig's tracks, evincing while doing so their accurate knowledge of its habits. Immediately the object of their search is sighted they endeavour to surround it as noiselessly as possible—taking no precautions, however, against approaching it from windward—and, finally rushing forward and yelling vociferously, discharge their arrows. This practice of driving is generally adopted near the coast and in the vicinity of a belt of *Rhizophora conjugata* where the animals, becoming entangled among the roots or sinking into the soft soil, are easily captured or despatched. The ownership of the carcass is decided in favour of the person who inflicted the first serious wound, and he is exempt, if he please, from carrying home his prize or from any further trouble in connection with it; the cleaning, cooking, and quartering of the animal is undertaken by any one who chooses to volunteer his services, during which interval the day's adventures are narrated: those who have remained at home share equally with the hunters[6] in the spoil, for they are supposed to have been engaged in contributing to the general wants of the community.

31. There are, of course, some in every encampment who, from laziness or want of skill, are of very little use in this respect, but, since any ill-natured remarks at their expense would inevitably result in a more or less serious quarrel, they are rarely twitted with the circumstance, but are permitted to partake of the feast.

[1] *Vide* Appendix B, item 52; also *post* "Stone Implements," paragraph 2.
[2] *Vide* Appendix B, item 51; also *post* "Natural Forms, &c.," paragraph 1.
[3] *Vide* Appendix B, item 15; also *post* "Natural Forms, &c.," paragraph 2.
[4] *Vide* Appendix B, item 9; also *ante* paragraph 5.
[5] *Vide* Appendix B, item 77; also *post* "Natural Forms, &c.," paragraph 4.
[6] On the return of the hunting party the chief is apprised of the nature and amount of the "bags;" whatever is brought in by the married men is taken to their private huts and distributed as they please, but the spoils of the bachelors are at the disposal of the chief, and are distributed according to his orders.

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Plate B.

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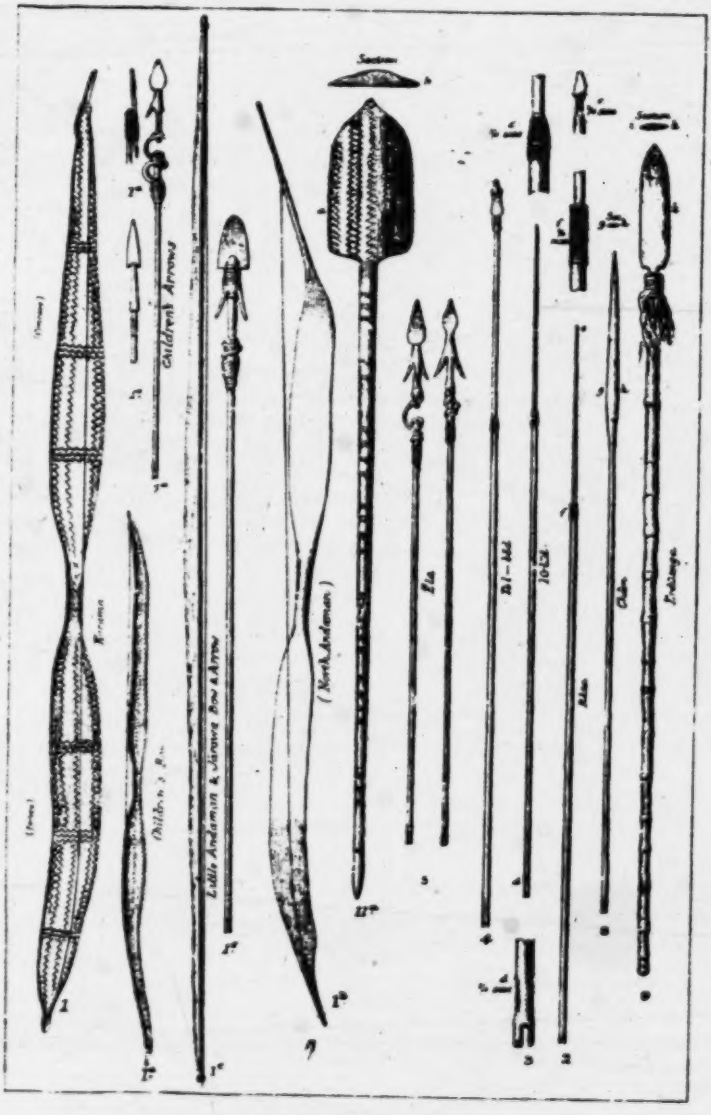

ANDAMANESE OBJECTS.

[facing p. 174]

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194 (3) No vanishing sound of *i* as in *say*.

(4) No vanishing sound of *u* as in English *know*.

(5) *h* is sounded after a vowel by continuing breath through the position of the mouth, while remitting the voice.

(6) *ñg* is a palatalised *ng*, and bears the same relation to it as *ñ* bears to *n*. To pronounce *ñ* attempt to say *n* and *y* simultaneously; to pronounce *ñg* do the same for *ng* and *y*.

(7) This *r* is soft and gentle, with no sensible ripple of the tongue, as very frequently in English, but is not merely vocal.

(8) This *ṛ* is strongly trilled, as *r* in Scotch or Italian *r*, or Spanish *rr*.

(9) The Andamanese cannot hiss, and hence they substitute *ch* for *s*, thus *.rŭch* for *Rŭs*, the Hindī corruption of Ross.

(10) This *t'* is a post-aspirated *t*, like the Indian *th*, quite different from English *th*, and hence to prevent confusion, the Greek *spiritus asper* is imitated by a turned comma. The sound *t'*, is common in Irish-English, and may often be heard in England.

(11) When *ng* is followed by a vowel, it must run on to that vowel only, and not be run on to the preceding vowel, either as in "finger" or in "singer," thus *bē'-ri-nga-da* "good," not *bē'-ring-a-da*, *bē'-ring-gad-a*, or *bē'-rin-ga-da*. It is only when no vowel follows that *ng* is run on to the preceding vowel.

APPENDIX B.

List of Objects made and used by the Andamanese.[1]

411 1. *kâ'rama-*.[2] Bow of a flattened S-shaped form, as made and used by the tribes of South and Middle Andaman, and the Archipelago, viz.: *.bō'jig-ngī'ji-*, *.bō'jig-yá'b-*, *.ôko-jū'wai-*, *.â'kà-.kó'l-*, and *.bal'awa-*,[3] and called by them *bō'jig kâ'rama-*[4] (our style of bow), to distinguish it from the bows used by the inhabitants of North and Little Andaman: it is made of a hard wood, generally of a variety called *chai-*, or—though less frequently—of the *bad'ama-*, *yá'rla-*, *pū'rud-*, or *châ'dak-*.[5] For hunting in the interior, the usual length of these bows, for the sake of convenience, is about 4 feet; the same or somewhat larger bows are used in the open jungle, along the coast, or when shooting fish; when made for presentation rather than for use, they are elaborately ornamented and carefully prepared in every way, and measure 6½ or 7 feet in length. It is customary to ornament

[1] In arranging this list, I have taken care to retain the numbers which are attached to each object in the Andamanese collection presented by me to General Pitt Rivers in 1878, and which is now exhibited in the South Kensington Museum. Except where otherwise specified, these objects are those used by the people of South Andaman; many of them, however, are believed to differ but slightly from such as are made by the remaining seven tribes of Great Andaman; but greater diversities are to be found among objects made by the Little Andaman and other *jâr'awa-* tribes.

[2] *Vide* Plate VI, fig. 1.

[3] For the situation of these tribes *vide* the accompanying map.

[4] For the purposes of inflection and syntax, the termination *da*, which belongs to most substantives, adjectives, and many adverbs, is invariably dropped (*vide* Appendix A, "Rules").

[5] The botanical names of the various trees which have as yet been identified will be found in Appendix L.

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411 both sides of every *bō·jig* bow, first by cutting a rough ×-like pattern along the edge from end to end with a *Cyrena* shell, and then with grass or leaves smearing *kòi·ob-* (item 60) over both surfaces, to form a background, upon which they finally paint a design in *tâ·la-ōg-* (item 58); the upper end, or nock, of the bow is also frequently decorated with a piece of fine netting called *râb-* (item 42); the bowstring is made of the bark fibre of the *Anadendrum paniculatum* (Andam., *yō·lba-*, item 64), to which, to increase its strength, a coating of black beeswax (*tō·bul-pūd-*, item 57) is frequently applied. Children's bows[1] only are ever made of mangrove wood, and then the *Rhizophora conjugata* is usually preferred.[2]

[NOTE.—The North Andaman bows, called *chô·kio-*,[3] which are generally, if not always, made from the tree they call *bad·ama-*, differ somewhat in design from those just described: they are also more neatly made, and are never painted or otherwise ornamented, and are almost invariably of a uniform size, *i.e.*, 5 to 5½ feet in length. The Little Andaman and other *jär·awa-* bows[4] are of a totally different form, and appear to be commonly made of the wood of the tree known to them as *lō·koma-*.]

2. *râ·tà-*.[5] The common blunt wooden-headed arrow, used when practising at an object:[6] the shaft consists of a reed-like variety of bamboo (*Bambusa nana*) called *rī·di-*, and the foreshaft is generally a piece of the hard portion of the wood of the Areca, or less frequently of the root of the *Rhizophora conjugata*: the point is usually hardened over a fire, and straightened by means of their teeth.

3. *tī·rlē·d-*.[7] The ordinary fish arrow, which differs from the *râ·tà-* only in that the point is sharpened.

4. *tó·lbō·d-*.[8] Fish arrow, about 4½ feet long, made like the preceding varieties, but provided with an iron head and barb; the string fastenings attaching the same to the foreshaft are covered with *kâ·ngatá-būj-* (item 62). In former times the head of this arrow consisted of a fish-bone; the serrated bone at the root of the tail of the sting-ray (item 53) was often employed for this purpose.

5. *ē·la-*.[9] Pig arrow, about 3½ feet in length: the foreshaft consists of a triangular piece of flattened iron fastened to the end of a small stick about 4 inches in length; at the base of the

[1] *Vide* Plate VI, fig. 2.

[2] This of course is only procurable by those living on or near the coast. The bows of the *ē·rem-tâ·ga-* children are usually made of wood of the *Trigonostemon longifolius*.

[3] *Vide* Plate VI, fig. 4.

[4] *Vide* Plate VI, fig. 3.

[5] *Vide* Plate VI, fig. 8.

[6] *Vide* Part III, "Games and Amusements," paragraph 14.

[7] *Vide* Plate VI, fig. 7.

[8] *Vide* Plate VI, fig. 6.

[9] *Vide* Plate VI, fig. 5.

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head one or two (rarely three) iron barbs are fixed to the stick, the end of which is fitted into a socket (*â·kà-chà·nga-*) provided for it in the shaft; the head and shaft are connected by a flattened thong about 8 inches long, made from the fibre of the *Anodendron paniculatum*, and which, before the arrow is fired, is always wound round the wooden portion of the foreshaft by twisting the latter when placing it in its socket; when an animal is struck the head of the arrow is retained in the flesh by the barbs (*archâ·ga-*), and as the foreshaft slips out of its socket by reason of the struggles and movements of the animal in its efforts to escape, the trailing shaft quickly becomes entangled in the brushwood, thereby detaining the victim and ensuring its capture.

6. *ē·la l'â·kà lū·pa-*.[1] This, as indicated by its name, is merely a plain pig arrow, having no foreshaft like the more elaborate *ē·la-*: it is less effective than the latter, but more easily made.

7. *tô·lbō·d l'â·rtâm-*.[2]

7*a*. *ē·la l'â·rtâm-*[3] (lit., ancient). Fish and pig arrows, headed respectively with fish bone (*nīp l'àr bū·l-*, item 53) and the *Perna ephippium* shell, which are said to have been used in former times when iron was unobtainable.

8. *châm-pâ·ligma-*.[4] Plain wooden arrows, about 3½ feet in length, made of the wood of the Areca palm: it is said that when iron was scarce these were shaped somewhat like the *ē·la-* (item 5) or *tī·rle·d-* (item 3), and used as pig and fish arrows, but now they are never so employed, being apparently made only for the "sake of auld lang syne," or to display the skill of the maker.

[NOTE.—The *jār·awa-* are only as yet known to employ the two varieties of arrows, viz., the *ē·la-* and the *tī·rlē d-*; the latter much resembles those bearing the same name and made by the eight Great Andaman tribes, but the former is a more formidable weapon, being larger and more strongly made.]

9. *ēr-dū·tnga-* or *gal·ain-*.[5] Pig spear, generally 6 or 7 feet long; the shaft consists ordinarily of a piece of ground rattan (*bōl-*), and a large double-edged blade forms the head. This weapon is rarely used, the *ē·la* (item 5) being preferred.

[NOTE.—It appears that none of the North Andaman or *jār awa-* tribes have ever been seen with such a spear; probably this is partly due to the difficulty they experience in obtaining iron.]

10. *kowai·a l'ôko dū·tnga-*[6] Turtle spear: the shaft[7] is a

[1] *Vide* Plate IX, fig. 5.
[2] *Vide* Plate IX, fig. 4.
[3] *Vide* Plate VIII, fig. 7*b*.
[4] *Vide* Plate VI, fig. 9.
[5] *Vide* Plate VI, fig. 12.
[6] *Vide* Plate VII, fig. 24.
[7] This shaft is called *tóg-*, and is used for poling the canoe along the shore.

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411 bamboo (male species preferred), often 18 feet or more in length; for the reception of the harpoon a socket is prepared at the small end, which is strengthened by pieces of mangrove wood, over which strips of cane are neatly tied. The harpoon consists of a strong barbed iron head fastened to a short piece of wood to which a long line (*bē·tma-*) is attached. When a turtle or large fish is struck the harpoon detaches itself from the shaft, which floats and is picked up after the capture has been effected.

[NOTE.—A harpooner almost invariably follows up a successful cast by plunging into the water, lest in the act of dragging the line the harpoon should slip out of the wound and his victim should thus escape.]

501 11. *rō·ko-*.[1] Generic name of the various kinds of canoes made in recent years[2] by the aborigines of South Andaman and adjacent parts, where, owing to the facility of obtaining iron tools, large dug-outs, called *gī·lyanga-*, capable of accommodating twenty to forty persons, are constructed in place of the small outrigger canoes (*chā·rigma-*) with which the other tribes have still to content themselves. They are usually made of the *Sterculia villosa* (Andam., *bā·ja-*), and are often ornamentally painted.

[NOTE.—The outrigger is called *tel-*, and is always made of the wood of *maü·-* (one of the *Sterculiaceæ*), which is soft and light.]

11*a*. *wāl·igma-*.[3] Paddle: these are not made by women, nor are they of any prescribed size, this being regulated merely by the fancy of the maker, and the material at his disposal; they are frequently adorned by women with chevrons[4] (*jō·bo-tàrtā·nga-*) of *kòi·ob-* (item 60) or *tā·la-ōg-* (item 58).

286 12. *yôto-tē·pinga-*. Turtle-net, made by men,[5] of a stout cord [584] (*bē·tma-*), which is prepared from the bark fibre of the *Melochia velutina* (Andam., *al·aba-*); the meshes vary in size according to the fancy or skill of the maker.[6]

415 13. *dā·kar-*.[7] Bucket made by the Great Andaman tribes of the wood used in constructing canoes, *i.e.*, *Sterculia villosa*, with 322 a loop of cane to form the handle; the implement used in hollowing out these vessels is the blade of the adze (*wō·lo-*, item 15), which is detached from its handle and fastened to a straight piece of wood so as to form a sort of chisel.

[NOTE.—The Little Andaman and other *jār·awa-* buckets are made in the same manner, but are much larger and superior in every way; they are, moreover, neatly ornamented round the sides with strips of cane, evenly laid on and fastened at the rim by plaiting.]

[1] *Vide* Plate VIII, fig. 69.
[2] *Vide* Part III, "Navigation," paragraph 4, and footnote.
[3] *Vide* Plate VI, fig. 70.
[4] *Vide* Part III, "Ornamentation," paragraph 6.
[5] *Vide* Plate VIII, fig. 60.
[6] *Vide* Part III, "String," paragraph 6.
[7] *Vide* Plate VII, fig. 14.

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Plate D.

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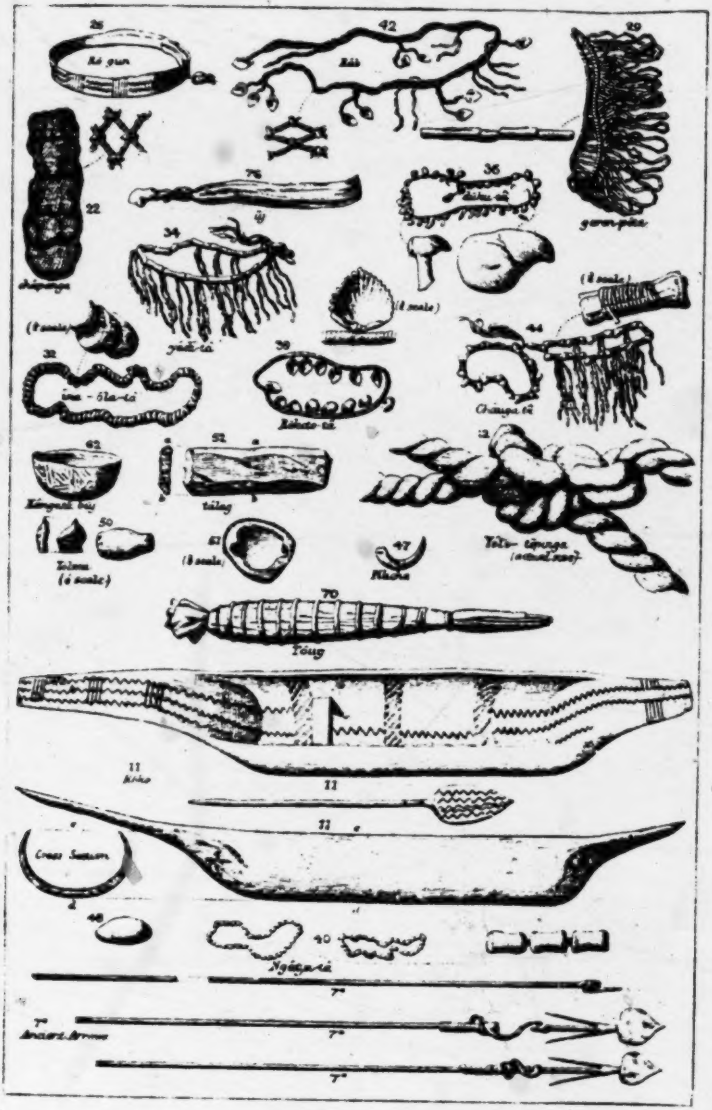

ANDAMANESE OBJECTS.

[facing p. 182]

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Plate E.

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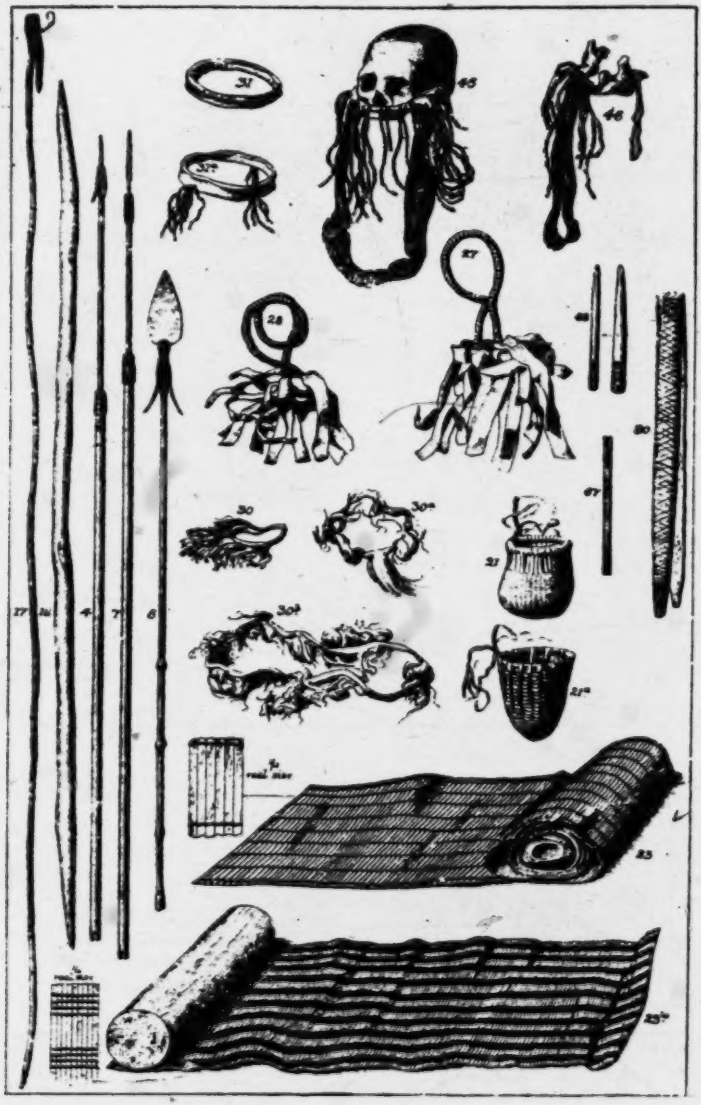

ANDAMANESE OBJECTS

[facing p. 186]

619 now passing away and I well recollect 25 years ago, though the Bojigyab were then known to us, the "coming in" of the first Balawa from the Archipelago and of the first Chariar from the extreme north and the difficulty experienced in communicating with them.

In reading the following remarks on the tribes it must always be borne in mind that the statements therein made refer largely to a state of things practically already passed away and never likely to be revived. The reader can without difficulty use his discretion in separating what is from what has been in the course of his perusal.

619 184 **Their Division into three Groups.**—The Andamanese tribes are by themselves divided into three distinct groups, having certain salient characteristics: the forms of the huts, bows and arrows, of the canoes, of ornamentation, female clothing, hair dressing, and utensils, of tattooing, and of language common generally to the group, but differing in details and sometimes entirely from those of other groups. Judged by this standard the tribal affinities may be thus stated: Northern or Yerewa Group, Chariar, Kora, Tabo, Yere, Kede; Southern or Bojigngiji Group, Bea, Balawa, Bojigyab, Juwai, Kol; Outer Group, Ongе-Jarawa, who do not tattoo. Some of the tribes are divided into septs, fairly well defined under headmen and with a local area of their own, but not under any separate designation.

The Distinctions between the Groups.—It is worth while bringing together this remarkable series of differences dividing the Andamanese into three divisions; differences that more or less run through all matters concerning them.

[304] (1) *Tattooing.*—Bojigngiji; women are the tattooers cutting the skin slightly with small flakes of quartz or glass in patterns of zigzags or in straight vertical lines; face, ears, genitals, arm and knee pits are excepted. Men and women are tattooed alike. Yerewa; men are the tattooers, cutting the skin deeply with iron pig-arrow heads: short horizontal parallel cuts in three or five lines down the back and front of the trunk, round the anus and legs. Women are tattooed thus as life advances. Ongе-Jarawa; no tattooing.

[302] (2) *Hair.*—Bojigngiji; partial to complete shaving of head. Yerewa; long matted ringlets touching the shoulders. Ongе-Jarawas; closely cropped head to a mop. Ongе-Jarawa women are not shaved.

[291] (3) *Ornaments and female clothing.*—Bojigngiji women wear a bunch of five or six leaves in front: Yerewa women a loose tassel of narrow strips of bark: Ongе-Jarawa a bunching tassel of fibre. Bojigngiji women are most particular as to clothing: Yerewa women careless. Jarawa women are apt to be quite unclothed. Bojigngijis and Yerewas smear their faces with grey clay mixed with water, white clay in delicate patterns imitating the tattoo marks, red ochre mixed with turtle fat and almond oil in coarse undefined patterns. Ongе-Jarawas, with yellow clay mixed with water in coarse patches, red ochre mixed with the above mentioned oils on the head. Ongе-Jarawas wear no bone ornaments.

[302]

[531] (4) *Ornamentation of utensils.*—Bojigngiji and Yerewas, slight: Ongе-Jarawas delicate and elaborate.

[323] (5) *Pots.*—Bojigngijis, pots with rounded bottom: Ongе-Jarawas and Yerewas with pointed bottom.

[412] (6) *Implements.*—Bojigngijis and Yerewas, coarse and rough in manufacture: Ongе-Jarawas, often delicate and neat.

[285] (7) *Baskets.*—Bojigngijis and Yerewas have a 'kick' and stand well: Ongе-Jarawas have uneven bottom and stand badly.

[411] (8) *Bows and arrows.*—Bojigngiji, *karama* bow and large arrows. Yerewa, *chokio* bow and small arrows. Ongе-Jarawa, curved long bow and long arrows.

(9) *Arrows.*—Generally common in type to all tribes: long with plain straight point, long with straight point and barbs, short with broad detachable barbed head for pigs.* Ongе-Jarawas and Yerewas, multiple headed arrows for fish.

(10) *Harpoons.*—For turtle, dugongs, and large fish among Bojigngijis and Yerewas: none among the Ongе-Jarawas.

* As the pig runs off, the trailing shaft is at once caught by something in the jungle and the animal is thus brought up short.

765 neck, usually, but not always, by the widow, widower or nearest relative. Mourning closes with a ceremonial dance and the removal of the clay. The ceremonies connected with the disposal of the dead are conventional, reverential and by no means without elaboration in detail.

V. Arts.

324 **Stone Implements.**—The only stone cutting implement known to the Andamanese is the quartz flake chipped off, never worked, and held between the fingers for shaving and tattooing, and shells and fish bones are used for the small blades of the peculiar adze of this people, and for arrow points, scraping and cutting. A *cyrena* valve is the ordinary knife and scraper. Hammers, anvils, hones, and oven-stones consist of natural stones. They have never made celts.

177 The ends of glass bottles for some years, and iron from wrecks for a long time past, have been substituted for the indigenous implements, when and where procurable. The object of the long series of murderous raids made by the inland Jarawas on the outlying parts of the Penal Settlement has now been proved to have been made in search for iron. The implements on the whole are coarsely and roughly made.

411 **Weapons.**—The weapons of the Andamanese are bow and arrow, harpoon, fish spear, pig spear, and they have never had any notion of poisoning the blades, which however sometimes inflict dangerous septic wounds from dirt, though as a rule they are kept bright as a matter of pride. Barbed arrows and harpoons with loose heads are used for catching and pulling up game in the jungles and marking where turtle or large fish are sinking.

Domestic Arts.—Excellent information with illustrations on the domestic and other arts of the Andamanese is to be found in a minutely accurate work, Man's *Aboriginal Inhabitants of the Andaman Islands.*

283 **String and Netting.**—String for nets and all purposes is twisted, often neatly, from the inner bark of creepers. Large nets of this string are made for driving turtle and hand-nets for prawns and small fish and for wallets. Stout cord is made from the inner bark of the *melochia velutina.* Whole, split and scraped canes are used as binders.

285 **Weaving.**—The weaving is good, neat and stout, and baskets and mats are thus well made from strips of canes.

323 **Pottery.**—The unglazed circular clay cooking pots with rounded or pointed bottoms, to the Andamanese very valuable, are built up by hand, sun-dried and then baked, but not thoroughly, in the fire. They are often encased in basket work for safety. Their manufacture, form and ornament are typical of the Stone Age generally.

322 **Wood and Cane work.**—Buckets are hollowed out of wood or cut from the joints of the bamboo. Canoes are hollowed out of whole trunks of light, soft timber by the adze without the use of fire, do not last long and are only fair sea boats. They are however capable of holding many people and a good deal of light cargo.

301 **Ornamentation, Personal and Domestic.**—The personal ornaments made are—bunches and strips of fibres and leaves scraped, cut and hammered, fringes of dentalium shells and straw-coloured wreaths of hammered and roasted dendrobium bark. The bones, skulls and jawbones of deceased relatives are also used whole, or broken and scraped to fancy or requirement, as ornaments, besides necklaces of the bones of animals. Tattooing and painting the body are only ornamental to the extent that, in the latter case especially, deviations from the conventional designs are due to personal taste.

353 The only ornaments to dwellings and huts are the heads of turtle, pigs, iguana, paradoxurus killed in hunting. These are hung up partly as ornaments and partly as trophies, but not with any idea of record.

531 Every manufactured article has its own customary conventional line ornament in one or more of three colours and in one or more of eleven patterns approximately achieved only. The colours are red, white and brown from natural earths. The patterns are (1) chevrons, (2) close cross hatch, (3) wide cross hatch, (4) parallel lines, (5) parallels and chevrons combined, (6) lozenges, (7) plait or guilloche, (8) herring-bone, (9) cross cuts, (10) loops, (11) vandyke with scolloped bands and cross lines.

crew of the ship called him 'Raja' and we adopted this name (*see* Plate IV, Figs. 1 & 2). He was the only one among the Onges who was fully armed with knives, bows and arrows. Among the contents of the canoes, we found complete fishing out-fits, bows and arrows, ropes and nautilous shells, for bailing out water. There was also a kind of bamboo float about 1½ ft. long, probably used for turtle fishing. We gave them food, cigarettes and other presents. After they became quite familiar with us and friendly, they were subjected to full anthropometric measurements by me. Their blood was also tapped by Mr Sarkar for typing. The presents given were iron nails, strips of red cloth, tea and tobacco leaves. Among all these objects what they liked most were the tobacco leaves. Cooked rice, dal (cooked lentils) and fish curry served to them from the launch Mess were however not much appreciated. With the few Hindi words that they were able to understand, we told them that we would like to visit their camp next morning and meet other members of the party. After the canoes had left, we anchored at this point for the night and after taking an early breakfast we left for the shore in two batches. We were informed by the crew that the creek near the Onge camp was called the *Dugong Creek*. We had to wade through brakish water and coast fringing with coral beds for about two miles, before we reached the Onge settlement. There was one large circular communal hut characteristic of the Onges and several lean-to's (*see* Plate I, Fig. 2). We noticed three canoes on the beach apparently those with which they came to meet us on the previous day. We saw also several small dogs and the entrails of a pig strewn round. We met all the 12 Onges we saw the day before, along with Ukla and his family. In addition there were a number of women and children. We took out our presents of dried tobacco leaves, iron nails and two large fishes that we had caught on our way from Port Blair. These were distributed to the Onges. There were altogether 17 men, 15 women, 4 boys and 3 girls. The children were between 1½ to 4 years. The entire party of Onges behaved towards us in a friendly manner and subjected to our measurements and tapping of blood from their fingers without any protest. We went inside their hut and inspected the settlement very thoroughly. A large number of photographs were taken. We found that the name of this village was *Tambebui*. As it became rather late, we decided to return to 'Molly' in the Andamanese canoes, rather than walk through the coral beds for 2 miles. The Onges understood our signs and gladly escorted us back to the launch. We found there were several other Onges waiting for us in the launch who came from the neighbouring village *Gabilong*. All of these Onges appear to be under the influence of the man nick-named as 'Raja' (*see* Plate IV, Figs. 1-2).

We could not proceed towards Hut Bay as the launch had to return for duty at Port Blair, where we reached at about mid-night.

After reaching Port Blair, I discussed the matter of transport with the Chief Commissioner, Mr Majid. A thorough coastal survey of Little Andaman would take at least 15 to 20 days. As it was found impossible to get either from the Forest Department or from the Harbour Master any of their launches

4: Guha E-5 (1948-1949)1953 AZ2 Andamans AZ2
Karen AP7

for such a fairly long period, it was decided to give up the idea of continuing our survey of the Little Andaman that year. A 122

At the suggestion of Mr Majid it was finally decided instead to pay a visit to the surviving members of the Friendly Andamanese tribes at Neil and Havelock Islands where they had now been transferred and settled. Unfortunately, as it was March and the closing month of the financial year, I had to return to my headquarters at Banaras and leave Mr Sarkar in charge of the party to carry on further surveys in the North and Middle Andamans as far as this was found possible. A 121 [131]

Accordingly Mr Sarkar with his party left Port Blair on 6-3-48 on the Forest Motor Launch "Lindsay" and arrived at Long Island at about 8 A.M. on the following day. Mr Sarkar was met by Mr Joseph, T. S. D. O. who brought "Loka" and his party of four Andamanese. They were studied by him. The party left Long Island on the Forest Launch "Kokhari" at about 7-30 A.M. on the following day. Mr Joseph accompanied the party, who halted at the Guitar Island where some of Loka's associates were hunting turtles with harpoons. After leaving Guitar Island, the launch passed through Homfray Strait. Mr Joseph showed the spot where the Jarawas in 1925 attacked his camp. This is near the place from where the Jarawas usually crossed from the Baratang Island to the Middle Andamans. Proceeding further westwards, Mr Sarkar and his party reached the north-east end of the Spike Island. This is another route of migration of the Jarawas from the South to North Andamans. Usually they come from the South Andaman and cross over to Bluff Island and then reach the Spike Island opposite to it. Loka gave the information that it was about this place that several Jarawas were shot sometime back and their bodies were buried in the Bluff Island. The party went along the coast of Neil Island and anchored off Foul Bay. Human footprints identified by Mr Joseph and Loka as belonging to the Jarawas were found in the sand. Following the footprints the party found the remnants of burnt ashes and cinder in a spot in the jungle. There were also vessels made of leaves for carrying water which were still wet. These were collected as specimens of Jarawa objects for the Department's collections. No traces of Jarawas themselves could however be found who must have moved into the jungles just prior to our party's visit. Our men then crossed over to Bluff Island and searched for the Jarawa skeletons, but none were found. On the 9th of March the "Kokhari" returned to Long Island, where it anchored. Loka brought his party of 21 individuals who were now settled in Neil Island. These people were carefully studied by Mr Sarkar and notes taken regarding their geneology, family structure and physical state, etc. On the 9th the Deputy Chief Commissioner, Mr S. C. Gupta with his wife arrived at Long Island. Mr Sarkar and his party accompanied him to Stewart Sound in his boat "Elsa". Unfortunately the few Andamanese who were living there happened to have gone out in their canoes for fishing and could not be contacted (*see* Plate I, Fig. 5). A 115 A 114 A [225] [411] A [115] [126] A [115]

They then went with Mr Gupta to the Karen village called *Webi* situated at a short distance from Stewart Sound. There were no Andamanese there, K 361

there were no Andamanese there,
but 400 people consisting of 133 males and 130 females who migrated from Bassein in 1924. They were Karen Christians who had settled there. After returning to Long Island on the 12th, Mr Sarkar and party left in the motor boat "Return" for a short cruise along the Jarawa country. Besides Mr Joseph, there were Mr Pooviah and a few of his Burman Bush Police armed with rifles and guns. The party passed through the Homfray's Strait and anchored at the north eastern corner of the Spike Island. Loka and his party of three Andamanese accompanied them in their two canoes. They came to the shore in one of the Andamanese canoes and after entering the forest they found bundles of bamboos piled up at one corner. This was identified as a Jarawa raft. There were also three paddles made out of a palm tree. These specimens were procured for the Department. After proceeding some distance in the jungle, 19 small fire places were counted in scattered manner. A temporary hut was also noticed at a short distance. A number of objects usually used by the Andamanese tribes for household purposes was found including a sling for carrying babies. A beautiful specimen of a Jarawa Bow painted in red in geometrical designs was also found. Photographs were taken of the settlements of the Jarawa camp and objects collected for the Museum. In another place at *Yeratiajig* remnants of a Jarawa camp including pottery and bones of animals, etc., were found. The party returned to Long Island on 14-3-48 and examined 8 of the remaining members of Loka's party. It left the same day for Port Blair where it arrived at 10 P.M. On the 25th Mr Sarkar and his party with the Deputy Chief Commissioner Mr Gupta, left for Kar Nicobar where it arrived on the following day. It returned to Port Blair after staying for a few days. During this time in Kar Nicobar, besides studying the Nicobarese of the Island Mr Sarkar met two Jarawa children who were captured and brought over there and placed in a local Mission School for education.

In the following year in January 1949, another small party was sent under Dr A. K. Mitra with Messrs H. K. Bose and A. Bhattacharyya, to continue the survey of the Little Andaman further along the eastern coast. They visited *Hut Bay* on the 28th and went to the Onge settlement there. A large circular hut similar to that seen by us at Tambobui was observed. It contained nine cots with a fire place in the centre. There were also two outrigger canoes, one in front of the hut and another on the beach. Altogether 11 Onges were found consisting of 2 adult males, 6 females and 3 young children between the ages of 6 to 15. The 8 adults and the adolescent boys were carefully measured and observations noted about their special somatic characters. After leaving Hut Bay they went as far as the South Point which is the southernmost point on the eastern coast of the Little Andaman, but did not see any other Onge settlement. They had to return on the 31st as the launch could not be spared any further.

The Onges were found to be strong and healthy and free from venereal disease, a scourge, which along with tuberculosis were chiefly responsible for the rapid depopulation of the Andamanese tribes. Our observations agree with the accounts of the Negritos of the Andaman Islands published before

painted with red ochre. It was perhaps left there for drying. The Jarawa would surely have returned just for this bow!

It was a straight piece of wood tapering at both ends. The outer surface was convex and was painted red, while the inner one was straight and smooth, and showed criss-cross designs and indentations. We then went to look for a spring and found it at some distance behind a steep rock but there was no water then. It appeared that the Jarawa had left this camp some time ago.

We then left Spike Island and sailed for Yeratia Jig. Here an old kitchen midden was known to be another Jarawa haunt. No Jarawa was found even there, however. The kitchen midden was a mound strewn all over with animal bones. Fragments of typical Andamanese pottery and a blue stone bead were discovered there.

In recent years the Jarawa raids have been rather more frequent. GUPTA (1955) has given a list of them in his report on these people. It is believed that the primary cause of the restlessness of the Jarawa is the shortage of game and other food material [1]. On the other hand the tribe appears to have been sufficiently provoked by the punitive expeditions. All the Jarawa villages that the punitive party came upon were burnt down. In the encounter of March 1911 a woman was captured alive and nobody knows what happened to her afterwards. The pregnant woman captured along with four children in 1938 off Bluff Island later on gave birth to a boy (SARKAR, 1952, Pl. IX, fig. 3) at Port Blair but it was difficult to tame her. After her delivery she attempted to swim away and was rescued from the sea. She would spend hours climbing a cocoanut tree. Her whereabouts were unknown during the Japanese occupation of the Andaman Islands during the last war. The young children were sent to the Mission at Car Nicobar, where the present writer studied them in 1948. One of them had died before.

On the other hand the Jarawa raids, according to the then executive Government officers, are also very brutal. Before they go out for a raid the Jarawa cover their chests with bark armour and paint their faces with patterns of white clay. The bark armour is stitched securely on the body by other persons and can only be removed by cutting off the stitches. These people are in the habit of mutilating their victims. They take out their brains, their eyes, and their bodies are hacked all over. – The type of arrow they use is almost a spear, as may be seen from fig. 4. This arrow was obtained by the present writer from the forest department officers of Long Island in 1951. It was used injuring a bush police officer of the night picket unit at Lakera Lunta in January of that year. The police, in return, shot one Jarawa dead. The male nurse of the Long Island Hospital took the following body measurements of this dead man :

Height ... 5 feet 1 inch
Chest ... 36 inches

Fig. 4

[1] They have of late been reported from about the region of Homlungta, Rangat Bay, etc. on the east coast of Middle Andaman. (The spelling "Ronga Bay" on the map is incorrect.)

9:Sarkar D-5 (1948) 1962 AZ2 Andamans AZ2
Jarawa

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Right arm ... 2 feet 4 inches
Right index finger ... 4 inches
Right toe ... 2 inches
Length of right leg ... 2 feet 11 inches
Length of right foot ... 9 ½ inches

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411
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The iron blade of the arrowhead is 17 cm long and 4.9 cm broad at the base. It is mounted on a wooden shaft 86.7 cm long. The barb at the base consists of an ordinary iron nail which is bent at its sharp end and fixed with bark threads impregnated with resin. It must have been obtained from a forest camp during some raid.

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According to GUPTA (1955) the above mentioned incident was not a premeditated raid. He thinks – after a careful inquiry into the above incident – that the Jarawa "came out in the open, early in the morning and walked right into the camp and did not attempt to shoot, [which] would warrant a presumption that they meant a friendly visit".

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Since the last few years the Andaman Government has not encouraged any punitive expedition among the Jarawa. This is also evident from one of the Senior Officer's opinion quoted above. The forest workers, on the other hand, still have to face the Jarawa. They think that since no punitive action is taken against them they are gradually getting bolder. It is reported that the Jarawa beat the trunks of trees within their hearing. Consequently all these buttress beatings are immediately reported to the higher authorities and armed guards protecting the forest workers are alerted. If that is the case then the Jarawa do not attack without a warning! But who knows what they really mean? Do they want to communicate with us? Or is it a means of communication among themselves?

The Jarawa Problem

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It has already been hinted at the problem of taming the Jarawa. It was one of the special aims of the Government of India to arrange a substation of its Department of Anthropology. As a result of this the present writer visited the Andaman Islands twice and was of the opinion that the substation of the Department of Anthropology should be stationed at Long Island and not at Port Blair. There were no express plans but to carry out anthropological studies of the aborigines of the various islands. It has not yet been possible to census the friendly Onge properly (SARKAR, 1960).

The primary desideratum appears to be a knowledge of the native language. As far as the present writer knows, there is no one in the various Government departments who is acquainted with the Andamanese language,

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not to mention the other languages spoken on the varius islands. The Onge

[4] A Jarawa vocabulary was collected from the captive pregnant Jarawa woman by Mrs. CHENGAPPA and Mrs. CHAUDHURI, and it has been published by the Andaman Government.

10: Sen K-3, 4 (ca. 1955) 1962 AZ2 Andamans AZ2
Negritos

CHAPTER IX

ABORIGINAL POPULATION

144 As said earlier, the aboriginal population of the Andamans belong to the negrito group which is spread over the different parts of Southeast Asia e.g. the Semangs and Sakais of Malaya, the Veddas of Ceylon, the Tapiro of New Guinea etc. The pygmies of the Equatorial Africa also show very close resemblance to the negritoes in physical as well as cultural characteristics but the latter are taller, much more dark skinned and also hairy than the former. In spite of the racial affinity with the other negrito groups of Southeast Asia, the Andamanese show a remarkable degree of purity, an outcome of the virtual seclusion and little contact with the other people. But the infiltration of the later settlers have proved a long way to bring about some changes in them. The comparison of the Andamanese with the other negritoes will prove that a good deal of evolution of the Andamanese has been attained by them independently.

Affinity with the other Negritoes of Southeast Asia

171 Though the fundamantals of the economy of the Andamanese do not differ appreciably from the Semangs and the other groups, some characteristic features distinguish these people from the others. The Andamanese follows a long series of food privations which is absent among the Semangs and the equipments are also more elaborate than [501] the other negritoes. The outrigger canoes of the Andamanese are more improved, the bows are of complicated S-form and the huts are considerable improvements of the rudimentary temporary camps original to the negritoes. These indicate a definite improvement of the material culture of the Andamanese over the others.

The affinity of the Andamanese with the other negrito groups i.e. the Semangs of the Malaya Peninsula and the Aetas of the Philippines can very well be traced from the study of the equipments of material culture and also from the general habits and the methods of life.

171 As regards the equipments, the bow, the arrow, the mode of erecting shelter and its shape show further improvements in their constuction 411 though the prevalence of the original simple types can be detected in some parts. The original one curvature bow has considerably evolved and has developed into the S-shaped bow in the Andamans though the

10: Sen K-3, 4 (ca. 1955) 1962 AZ2 Andamans AZ2
Negritos

original type can still be found in the Little Andaman. The similarity of the arrows are also striking and this has been rightly observed by Dr. Cipriani,[1] 'Similarity also with the arrows. This consists of a barbed detachable head connected to the shaft by a string. The harpoon arrow like its near relative and probable forefather, the harpoon spears, offers an interesting question in ethnography. Although the Andamans are widely separated from Malaya and Malaya from the Philippines, the three groups of negritoes have harpoon arrows, while such weapons do not seem to be present in other regions of Asia.' The huts of the Andamanese are also the outcome of further improvements over the original negrito shelter found among the other negrito groups.

In the general habits and the modes of living, a good deal of similarity if not identity is maintained with the other negritoes. But changes and modifications have crept up among the different groups in response to the different environments. Some of the original habits have been totally forgotten and some equipments have been further improved upon or in some cases, totally forgotten. The Jarawas, who are believed to have arrived in the Great Andamans from the South had the knowledge of construction and use of the canoes which served as the means of their movement from the south to the north, have totally forgotten both the construction and use of it.

Though the changes brought about among the Andamanese in response to the environment and time is in no way inconsiderable to give them an impress of individuality, little room for doubt is left that they belong to the big family of the negritoes whose remnants are only found to-day scattered over the different parts of southeast Asia.

Origin of the Andamanese

The presence of such a small group of negritoes in the deep solitude of physical separation from the other countries obviously arouses the question as to how and wherefrom they came. The attributes of the Andamanese, prove very well their affinity with the negrito groups. Much to the curiosity of the observers, the tribal people of the Nicobar Islands do not show any affinity with the Andamanese culturally or materially and such contrasts are important aspects of anthropological study. However, the distribution of the negrito group in these isolated islands have been explained by some as the passage of the people from the Lower reaches of Burma and it is accepted with greater unanimity be-

1 Cipriani, L—On the origin of the Andamanese, Andaman & Nicobar Islands, Census of India, 1961.

[113]

THE ANDAMAN ISLANDERS

has a moustache, whereas pure Negritos have no body or facial hair.

THE JARAWAS

For obvious reasons I was unable to carry out any studies on the Jarawas. Apart from a restricted area around Port Blair, on the east coast of Great Andaman, the whole island is a tangle of tropical vegetation, in many places impenetrable, or at most passable only by hacking a way through. A few roads radiate from Port Blair, but none penetrate more than twenty kilometres or so from the township. To the north of the town is a well-maintained police cordon that stretches right across the island from east to west to prevent infiltration by the Jarawas; those in the south were all rounded up some time ago. Only beyond the cordon do the Jarawas maintain their rule over the virgin forest almost unchallenged. Like all the Andamanese they are Negritos, small in stature and extremely dark skinned. Obsessed by a fierce hatred for anyone outside their own group, enemies even of the other Andamanese, they roam through the forest with their deadly arrows. Shot from their powerful bows, their dagger-sharp arrows penetrate deep into the body of the victim – they can transfix a man's chest. The bloody skirmishing which has gone on for the last hundred years shows no signs of lessening even today.

The Jarawa ferocity increased as the result of grave mishandling of the situation by the foreigners. In this connection the following sentences from Portman's *History* may be quoted: 'On our arrival the Jarawas were quiet and inoffensive towards us, nor did they ever disturb us, until we took to continuously molesting them by inciting the coastal Andamanese against them. After a few years of this disturbance, the life of the Jarawas became very hard and in retaliation they began to attack us.' As the author in part recognizes, 'It was our fault if the Jarawas became hostile'. This was a fundamental error. Petty pilfering committed in perfect innocence by the Jarawas, ignorant of Western ideas of individual property, led to vicious punitive expeditions. To this end fire-arms were given to the hereditary enemies of the Jarawas, the Arioto. Elated by their unexpected power, they at once began slaughtering any Jarawa within sight, and enjoyed themselves hugely.

11: Cipriani E-3 (1951-1955) 1966 AZ2 Andamans AZ2

The Onges are the most numerous of the three peoples surviving in the Andamans. Vigorous and apparently full of promise for the future they may well offer a suitable field for the application of eugenic measures designed to increase their numbers; this would be impossible with the Jarawas owing to their hostility towards outsiders, and the few remaining Arioto are nearly all of impure stock. If their confidence could be gained, it might be possible to encourage inter-marriage between the various groups, in the hope that fertility would increase and the ultimate total extinction of Onges, Jarawas and Arioto, would be prevented.

In the Andamanese, this physiological decline has been accompanied by cultural decadence, as my digs in the kitchen-middens all over the archipelago showed. The ancient pottery which came to light is proof enough; when one compares it with recent work the latter is indicative of secondary and not original primitiveness. The successive strata in the deposits show a gradual decline from earthenware clearly made from a very refined mix to crude ware with vegetable impurities and bits of stone left in the clay. The pots dating from ancient times were clearly well fired and the quality of the clay allowed them to have thin but nevertheless very strong walls. In the present-day ware, on the other hand, the wall has to be thick because of the coarseness of the clay, making the pots both heavy and easily broken. Moreover, firing is limited to drying the pots in the sun, and the clay is in fact only hardened when the pot is used for cooking.

Ignorance of fire-making in the Andamans may also stem from this cultural regression, as one of the effects of physiological and psychological decadence. Given the absence of magico-religious beliefs among the Andamanese, ignorance of fire-making cannot be attributed to any ritual taboo or veto. On the other hand, it is in sharp contrast to the possession of elements of cultural advance such as the bow, with highly developed arrows, the harpoon with its detachable point, and the outrigger canoe.

Few races are known, even in far distant times, which never had fire. *Sinanthropus* and nearly every fossil Man after him had fire, even if he was unable to create it and could only preserve it once received from some natural combustion. The Onges, while retaining a number of ethnic characteristics of the Palaeolithic era, have

11: Cipriani E-3 (1961-1965) 1966 AZ2 Andamans AZ2

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9 The bow and arrow is the main weapon used for hunting; in this photograph the archer has the long arrow harpoon used for spearing large fish

10 Fishing in the coral shallows

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[facing P. 66, G]

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11 *Above* Launching an outrigger canoe
12 *Below* Hunter with a monitor lizard
13 Mother and child

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224
411
516

[facing P. 66, H]

11: Cipriani E-3 (1951-1955) 1966 AZ2 Andamans AZ2

If we may deduce from the evidence of the middens, pottery arrived in the Andamans at the same time as the pig, bones of which appear only in the upper levels; but we know nothing of the people responsible for the introduction of either. It is, however, certain that both arrived in Great Andaman and Little Andaman together.

There are indications that Little Andaman was the first to feel the benefit of pottery, possibly introduced by a light-skinned people. There are, as I have said, significant variations of skin colour and stature among the Onges; some have markedly lighter skins than the other islanders, and one would assume that this feature entered Little Andaman from the Nicobars with the unknown people who brought with them pottery and the pig. The people as an entity have disappeared as a result of inter-marriage with the indigenous population, while pigs reverted to the wild state and flourished, even spreading from one island to another by swimming (I can vouch for this, having seen them do it).[1]

The indications are that there were migrations from Little Andaman to Great Andaman long before those from which the Jarawas derive. In certain respects they resemble the Onges, whereas the surviving Arioto appear to represent a purer stock. The Onges seem to have acquired foreign blood in relatively recent times, perhaps when pigs and pottery appeared, when the kitchen-middens of Great Andaman were already being built up by the Arioto, but before the migration northwards by which the Jarawas reached their present home. Much more intensive investigation of the middens will, however, be needed before these hypotheses can be confirmed.

At Golpahar there were within the midden five graves containing human bones, not in anatomical position, and clearly filled in with fresh earth. I was surprised to find only the long bones, skulls and jawbones; the remaining bones could not be found. This may be explained by the custom among the Arioto (still prevailing

[1] One thing is puzzling: the three remaining groups of primitive Negritos in Malacca and the Philippines have the arrow harpoon with a detachable head. This is particularly valuable in the forests against the pigs, which cannot escape into the undergrowth once they have been hit. But it is difficult to see how or why the arrow harpoon reached the Andamans, where there were at that time no large mammals. It seems necessary to postulate the former spread of the weapon with the Negritos over a very wide area and its use against a much wider range of animals.

11: Cipriani E-3 (1951-1955) 1966 AZ2 Andamans AZ2

they may be, and the strays of the Andaman forests howl unceasingly. Even in the Onge encampments the dogs howl enough to wake their sleeping masters; the only way to stop the noise is for the Onges to forestall it by taking their dogs into the family bed, fleas and all. There ensues silence, warmth and more fleas!

Hunting weapons of the Andamanese, the Semang and the Aetà were originally made by all three peoples in a similar way, common to all the Negritos. None have any defensive weapons as such; their bows and arrows, never feathered, serve as arms as well as for hunting and fishing. Shields are unknown and spears, rare in the Andamans and among the Semang, are apparently no longer in use among the Aetà; where they exist they are usually mainly for hunting. All three peoples, however, have the arrow harpoon.[1]

Their bows are all clearly derived from the same source. In the Andamans, only the Onges and Jarawas have remained true to the original form, local variations arising at a later date, and they afford additional evidence in favour of Little Andaman being the original springboard from which the Negritos entered Great Andaman.

All the Negritos make their bows from one piece of wood stripped longitudinally from the living trunks of large trees such as *Mimusops littoralis* or *Pterocarpus dalbergoides*. After they have been left to season the strips are patiently fashioned into the required shape; for this the Onges use the shells of *Cyrena* (the freshwater species, which are tougher). The bows are straight, thicker in the middle and gradually tapering towards the ends, and are usually 1·6 metres long, although there are exceptions. The cross section is the same throughout the length of the bow, varying from three or four centimetres diameter at the centre to two and a half centimetres at the horns. The inner surface is so slightly curved as to be almost flat, while the back is markedly convex. The blunt horns end in a 'shoulder and neck' stop to take the string, the neck projecting about one and a half centimetres beyond the shoulders – enough to hold the bowstring. The shoulder is formed by strips of *Ficus* bark wound round the bow, or the yellow fibres of *Dendrobium*; one shoulder is invariably larger than the other. The string itself, made from long thin strips of *Ficus* bark twisted together, has a very narrow loop on one end and a larger one at the other;

[1] See p. 86.

11: Cipriani E-3 (1951-1955) 1966 AZ2 Andamans AZ2

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when stretched the string remains held in place by the two loops, one too small to slip over the lower shoulder, and the larger one held firm on the upper shoulder by the tension of the string.

When the bow is strung, it is placed upright with the lower horn firmly on the ground, the string already looped on to the small shoulder. The top of the bow is forced down (either hand being used indiscriminately), a foot being pressed against the grip to help it bend; the other end of the string, with the large loop, is then run up the stave and slipped over the larger shoulder, where the tension holds it firm. Considerable individual variation may occur in the art of making the bow and preparing the string and also in the actual stringing. In the Onges, apart from the size of the bow, the variation never went beyond slight differences in the curvature of the inner surface and back, the former being in a few cases quite flat, or even concave, as in the Jarawa bows. Neither the Onges nor the Jarawas, including those on North Sentinel, decorate their bows in any way, but the Arioto like to make a series of small straight cuts on the horns, on both the inner and outer surfaces and sometimes even cover the bow with bizarre red and white lines, which wear off very quickly with use. There appears to be no real difference between Onge and Jarawa bows, except that the latter tend to be larger, in keeping with their intended use as hostile weapons.

From the original Negrito bow of Little Andaman the so-called S-bow of the Arioto evolved as the result of a number of minor innovations. The basic principle remained the same, but in an effort to take greater advantage of the elasticity of the wood the rudiments of the distinction between the two horns later developed into a distinction between the two halves of the bow.

The unique modification which the original form of bow underwent on Great Andaman turned the stave into a composite of two spear-shaped halves, the upper almost straight, the lower slightly curved. At the horns the bow is still almost round in section, flattening as the 'spear' broadens out; the general dimensions and shape of the bow vary little between the Arioto of the south and north of the island, although the latter make the diameter at the horns rather larger. The two halves are joined at the centre of the weapon, forming a grip which is the thickest part of the bow. The simple difference in the size of the shoulders in the Onge bow now

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becomes more complex; the upper horn is more pointed than the lower, and there is a difference between the upper and lower halves of the bow, as it is necessary to prevent the loops of the strings slipping on the bow. The bow string is made not from *Ficus* bark, as in the Onge bow, but from thin *Anadendron* fibres, twisted together and waxed with beeswax; it has the usual loop at each end, and the bow is strung with the help of the foot as in the simpler version. When strung, this type of bow becomes S-shaped as a result of the variations in elasticity arising from the spear-shape of the two halves, but when drawn it assumes the normal shape. The fact that it is easier to draw an S-bow than a single-curve one, without any loss of propulsive force, is an interesting mechanical point.

The bows are only strung when required for use, and in the normal way neither they nor the arrows are ever seen by outsiders; they disappear up into the roof of the communal hut, or into the bushes round the temporary camps. Even with friendly Onges I had to ask specifically to see them, or surprise their owners out hunting.

The external influences to which the Semang and Aetà have been subjected have been strong enough to make them to a large extent forget their original form of bow, which has however survived alongside a large number of cultural inovations. The differences, for example, between the upper and lower extremities of both bow and string have persisted, and the shoulder-and-neck stop (although this is now made by notching the bow-stave deeply) so that we may reasonably assume that a close study of the Onge bow will give us the essential characteristic of a very ancient form of the weapon. The greatest modification to the original form is the one which has been made on North Andaman, and in an attempt to improve the effect of separate curving of the two sections selected trees are deliberately trained for the purpose, the cut wood being seasoned slowly over heat and smoke, paying particular care to the parts which will take the greatest strain. As a result the 'give' in the bow is markedly increased. But even here no fundamental alteration has been made in the design of the weapon.

The Onge bow, therefore, represents the forerunner of the somewhat more highly evolved type (now dying out with their owners) on Great Andaman, and adds further support to the evidence for

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the arrival of the Negritos in the Andamans from the south; yet more evidence is provided by the Onge arrows. In the Andamans there are two types of arrows, those used for fish, and those for game, the latter also being used against human targets.

The same arrows are found throughout the archipelago, confirming a common origin. Only the dimensions vary from one area to another and that only very slightly; the Onges have both the biggest fishing arrows, and the biggest arrow harpoons, and the Arioto the smallest. In the past the islanders used arrows with from two to four points for fish, but I was unable to find any traces of them; those picked up on North Sentinel some years ago were possibly the last to be made.

The fishing arrow of the Andamans is made basically from the small native bamboo. The Onges remove the knots by scraping them down gradually with *Cyrena* shells, and then cut off a length varying between seventy centimetres and about one metre. Into one end they fix securely a hardwood stick, fifteen to twenty centimetres long. This foreshaft takes the head, now nearly always iron, but in the past made of wood, fish spines or pig bone. In the kitchen-middens I also found heads made out of shaped pieces of *Tridacna*. The three parts of the arrow are then bound together with very thin waxed fibres, wound carefully round and round, great care being taken to prevent the bamboo shaft splitting where the foreshaft is forced in. The completed arrow finishes up 1–1·15 metres long overall. The head is barbed, to hold the fish once it is hit; to get it out the whole arrow has to be pulled through. Sometimes, but not always, the shaft has a notch in it, to take the cord, care being taken to make the notch never more than two centimetres from any knot, to avoid any possibility of the shaft splitting. Alternatively, splits are prevented by binding waxed thread tightly round the shaft.

The hunting arrow, or arrow harpoon, is an intelligent adaptation, the result of acute observation of wild life, and is more complicated than the fishing arrow which is intended only to pierce the victim. The hunting arrow must not only score a hit, it must also prevent the animal from escaping into the undergrowth and force it to reveal its position. The harpoon holds the victim cruelly and securely, and the excruciating pain caused by the drag of the cord forces the animal to reveal its position by its cries of agony. The

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screams of a wild boar can be heard for hundreds of metres, drawing the hunters in from all sides, eager to take it alive. If it proves to be a large male, whose tusks can inflict appalling injuries, the hunters kill it at once with a spear or with a third type of arrow which has a long fixed head. This type of arrow, which does not differ greatly from those found in other parts of the world, is still used by some of the Andamanese against human enemies.

The shaft of the arrow harpoon is made preferably from *Tetranthera lancifolia*, very common all over the archipelago. The wood for the shafts has to be straight, very slender at one end, where a notch is cut half a centimetre deep to take the cord, and a little thicker at the other, which is hollowed out for about one centimetre to take the head of the weapon. Splitting of the wood at the ends is, as usual, prevented by binding the shaft with *gnetum* fibres, twisted into thread and waxed with beeswax.

The efficiency of the harpoon depends on the double-strand cord, extremely strong, made from *Hibiscus* fibres. One end is fixed on to the shaft, five centimetres from the point at which the foreshaft enters it, and the other to the foreshaft, two centimetres from the base, with a thirty-two centimetre loop of cord between the two fixings.

The harpoon blade, now made of iron, is eleven centimetres long and spear-shaped, ending in a series of barbs. The haft of the blade is bound tightly on to the short foreshaft, also eleven centimetres long, which is scraped thin at the end so that the haft can be bound on smoothly. The complete weapon mounted for use is about eighty-eight centimetres long overall in the Onges and Jarawas, and slightly shorter, about sixty-five centimetres, in the Arioto.

To prepare the harpoon for use the slack of the cord is wound firmly round the shaft, and the foreshaft with the blade attached is forced in. As the harpoon strikes, the shaft becomes detached and the victim, firmly held by the barbed arrow head, drags it along on the end of the cord until it catches in the undergrowth and holds the animal fast.

There is little difference between the arrow harpoons of Little Andaman and Great Andaman, and what difference there is affects only the dimensions, the type of cord, and the form of the barbs. The basic principle remains the same wherever it is found; all the Negritos, including the Semang and Aetà still use it, although these

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two have added feathers, and poisoned tips, in imitation of neighbouring peoples.

For the capture of large fish and animals such as turtles, dolphins and dugong, the Onges and Arioto use not the arrow harpoon but the spear harpoon. Brown saw none of these among the Onges he studied in Rutland, and consequently assumed its absence on Little Andaman. The Onges carry as little as possible on their sea voyages for the sake of speed, and would not therefore take spear harpoons (used only for marine hunting) with them on trips to Rutland, which they visit only for the purpose of hunting pigs and not to fish, or to hunt marine animals. They certainly have, and use, spear harpoons even today; I myself have been with the Onges and seen their harpoons used from the canoes. I had ample opportunity to admire both the effectiveness of the weapons and the accuracy of the throwers.

The greater structural and operational simplicity of the spear harpoon, in comparison with the arrow harpoon, leads one to suppose it the older of the two. Its cord is made of tough *Hibiscus* fibres, and with the aid of these and a straight shaft about six metres long and little over four centimetres in diameter, even the humblest of nails, seven centimetres long and three millimetres in diameter, can become the point of a spear harpoon. It is fixed into the shaft (usually of mangrove wood) which is hollowed out at the thinner end to take it, and with a cord up to a hundred metres long or more attached to the nail two centimetres from the head, the spear harpoon is ready for use – shaft, point and cord.

When the harpoon is to be used for turtles, no barbs are needed, as the point is driven so firmly into the shell that blocks of wood have to be carried in the canoes to knock it out for re-use.

The harpoon throwers stand ready on the platform jutting out fore and aft of the canoes (see p. 122), the free end of the cord is tied to one of the booms to prevent it being jerked out of the canoe as the victim tries to escape, and the slack is coiled in the bottom of the canoe. The thrower holds the cord against the harpoon as he waits for the right moment and then throws. As the harpoon strikes, the point detaches from the shaft, which floats on the water till picked up – often to be used as a punt-pole in the shallow waters of the coral reefs as the canoe follows the victim, now held firmly on the end of the cord.

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The widespread use of the arrow and spear harpoons since very ancient times is evidenced by their survival in areas far removed from each other, and among primitive peoples geographically completely isolated. The arrival of the harpoon in the Andamans must in all probability have occurred thousands of years ago when it was widespread at least in the south and south-east of the Asian continent. Even the Andamanese canoes with their platforms fore and aft built specially for the harpoon throwers indicate not only the antiquity of the islanders, but also their historical and cultural connection with the peoples represented today by the few remaining Negritos.

From the evidence of the middens it is clear that the links between the Onges and the Jarawas are very close. While the date of the first migration from Little Andaman to Great Andaman remains uncertain there can be no doubt that migrations took place, followed by isolation within the islands, until today the Arioto cannot understand the Eremtaga, and the Onges neither the Jarawas nor the Sentinellese. There is very little in the literature on the Jarawas and their origin, but from my own observations I would deduce that they arrived in Great Andaman comparatively recently, as even their subsequent rigid isolation has not brought about any really essential cultural differences from the Onges.

The route of the migration will undoubtedly have led them via Rutland, whose heights can be seen as an open invitation from the north of Little Andaman. Chains of small, uninhabited islands lie between; the Onges have a name for all of them and have camp sites there for use on hunting or fishing expeditions; the Arioto, on the other hand, do not appear ever to have been to the islands. From Rutland migrations would have moved on to Great Andaman, until, filtering through to the extreme north, they became the Jarawas, or 'strangers', as the Arioto still call them. The Arioto themselves probably arrived previously by the same route but stopped in the coastal areas, then uninhabited and inviting occupation. The Arioto would have considered themselves owners of the still uninhabited areas and tried to exclude later immigrants; so began the hostility I have already described between the occupiers of the coasts and the later arrivals whom they forced into the depths of the forests.

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comparatively rapid variation and it is now difficult to establish their linguistic connections outside the Andamans, but Africa can certainly be discounted, in view of the general weight of evidence against any Negro ancestry.

Like the Onges the Jarawas are divided into endogamous groups, each with its own name, corresponding to their communal huts, and each with their own territory for the purposes of hunting, fishing and gathering food. There is little reliable information about their daily life or even their numbers; it is, however, certain and I cannot overstress this, that the Jarawas are Negrito in type,[1] with the same admixture as in the Onges.

Whoever or whatever they may be, the replacement of primitive expeditions by genuine attempts at pacification would, quite apart from the obvious humanitarian considerations involved, afford a unique opportunity for detailed study of a dying population in regeneration, and the refusal of an otherwise irrevocable progress towards final extinction.

But the problem of the Jarawas is merely one aspect of the problem of the Andamanese in general, and their connection with the Negritos both past and present. The Semang and the Aetà, as we have seen, resemble each other, and together resemble the Andamanese, in a number of essential points. Recent contacts with other influences in Malacca and the Philippines respectively have produced variations – such as the Semang use of traps and snares with which they take small animals, and also birds, which the Andamanese never touch. They have also taken to making refuges in the trees as a defence against wild animals, non-existent in the Andamans. Traps, poison, agriculture, fish-hooks, animal nets, are all late acquisitions, not found among the original Negritos. It was thought by Brown that spears, used by the Semang, were also unknown among the peoples of the Andamans, but I have myself seen them used by the Onges, though admittedly I saw only a few, and very rough specimens; I did, however, manage to bring some back with me.

In the case of the canoes, the Semang and the Aetà seem to have

[1] On 11 January 1931 a Jarawa was killed at Lekeralarta on Middle Andaman and the head is now in the Indian Museum in Calcutta. This head shows signs of beard, unlike those of two Jarawas held in the Nicobars since the September 1938 incident. Short, muscularly well-developed, strong and very black, Jarawas are normally beardless, as is usual in Negritos.

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way in which the spirits are invoked against enemies, involving the use of some personal possession – an example is the invariable destruction of the used *naquinegbe*, or of hair after shaving. The same fear of the night induced by the idea of spirits walking abroad led to the making of torches from rolled palm leaves containing a mixture of embers and resin.

From the Andamans to Oceania the chief spirit is generally imagined in the form of a giant lizard, living at the top of the sky and ruling the storms; none of the peoples who believe in him ever eat any lizard or lizard-like creature. All of them have the same sexually suggestive dances, both male and female, sometimes inspired by the monitor or dragon-lizard, symbol of desire, and often associated with miming and dramatic representations of real and imaginary scenes. These dances, with their *joie de vivre*, are accompanied by the smoking of aromatic leaves in pipes which are frequently made from natural objects such as the claws of crustacea. The Onges in fact have since very ancient times used only this type as shown in the lower levels of the kitchen-middens dating back at least five thousand years. Everywhere, pipes of this kind are used indiscriminately by both sexes, passing from mouth to mouth. Pipes identical in every way with those of the Onges are found to the east of the archipelago, well into Oceania, and I have myself also seen them on Melville Island, north of Australia, always with the same notches for the teeth to grip. This undeniable evidence of the spread of identical pipes over so wide an area long before the possibility of European contacts cannot in my opinion be attributed other than to migration over vast distances in very ancient times.

Similar coincidences apply in the case of the arrow harpoon and indeed harpoons in general. I cannot agree with Brown in his assertion that the harpoon dates from the arrival of European influences, which brought the use of iron; the harpoon points made by long and patient working of *Tridacna* shells which I found in the kitchen-middens of the Andamans are in my view enough to refute the theory.

The canoes from which these harpoons are used, with the absence of distinction between bow and stern and the single float on the lee side, are extremely typical. They are identical in peoples which have been widely separated for a very long time and appear not only on the Andamans, and as far as Oceania, but also in North

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or form of numerical evaluation is further support for the extremely low stage of cultural development at which they became isolated.

22 ART

302
531
532

When painting their bodies with ochre the Onges have no idea of symbolic representation, and use only geometrical designs. These invariably seem spontaneous, and in my view do not represent a degenerate form of some more highly evolved art, half forgotten over the centuries; in short, the 'artists' of the Andamans, with no conception of symbolism, are even today less advanced than their Palaeolithic counterparts.

23 DIGGING STICKS

172
412

In late Palaeolithic deposits, stones with holes in them have been found which correspond to those still in use among peoples such as the Bushmen, to add weight to their digging sticks. The absence even today of any form of weighted stick in the Andamans, where stone is plentiful, would appear to antedate the culture at least to early Palaeolithic.

24 HUNTING

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[411]
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The Onges still use the Palaeolithic throwing stick, although it is not their main hunting weapon. They have no idea of fixed traps, which must from the evidence have been known in Palaeolithic times, and it is hard to believe that a people so dependent upon hunting would have lost the art once it had been acquired. They have crude nets which the women use for fishing, but these are probably a comparatively recent introduction, which has arrived via the Nicobars.

25 DOMESTIC ANIMALS

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The Andamanese have none, and this would seem to add weight to the evidence for their great antiquity.

26 ECONOMY

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There is no economic system of any kind, and from the evidence available it is highly unlikely that even the most primitive form ever existed. There is no conception whatever of providing for tomorrow, or of any form of exchange or barter.

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27 WEAPONS

The wall paintings of the Palaeolithic era depict bows and arrows, the former of both the simple and the double-curve type, and the latter with one or more points, similar to those still used in the Andamans. (The same *marques de chasse* as those found on bone arrowheads of the late Palaeolithic era were on *Tridacna* arrowheads which I found in the lower strata of the kitchen-middens.) The harpoon, with detachable point and cord, was widespread in the late Palaeolithic era, and this too has persisted unchanged to the present day in the Andamans.

28 NAVIGATION

There is no proof that Palaeolithic Man travelled by water, but it can be argued that the proven antiquity of the Andamanese culture is of itself evidence in favour of the supposition that he did.

The author is of the opinion that the sum of the evidence outlined above is overwhelmingly in favour of the continuing existence in the Andamans of what may well be a virtually unchanged Palaeolithic or even pre-lithic culture.